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FINANCIAL TIMES SURVEY

AEROSPACE

Aero-engines: Rolls-Royce  
in long search for a  
super fibre Page 12

SECTION III

Tuesday June 8 1993

The aerospace industry would probably have preferred to gather in Lourdes rather than Paris this week for the world's biggest airshow.

Barring a miracle, the industry, crippled by the worst cyclical downturn in its postwar history, still faces a few more years of heavy turbulence.

But there are now signs that the worst is perhaps over. With the recent rescue by General Electric of the US of GPA, the world's biggest aircraft leasing company, which has been mired in a growing financial crisis over the past 12 months, the industry believes it has probably seen the end of the bad news.

"The entire industry has undergone open heart surgery and is now in intensive care waiting to recover slowly," says a senior executive of the European Airbus consortium.

Aerospace companies and airlines have had to adapt to three years of brutal recession - which unlike previous slumps has combined a sharp fall in activity in both the civil and the military sides of the business - by cutting production, restructuring and reducing staff on a huge scale, and intensifying their efforts to collaborate with other groups in mergers, partnerships and other strategic alliances.

The traditional optimism of the industry has been replaced by a new sense of realism. Although the bottom has probably been reached in the current cycle, no one is yet prepared to forecast when the recovery will gather steam. The best estimates are late 1994 or early 1995. But even when the market does pick up again, it is unlikely to roar ahead as in previous cycles.

Airlines, which have lost more than \$10bn in the past three years, are still struggling to return to the black. Fierce fare wars, which reflect the continuing overcapacity in the market at a time of increasing liberalisation, will keep airline balance sheets under pressure.

With no alternative but to reduce their overall costs, airlines have had to cancel or defer orders for new aircraft placed during the unprece-



Paris Air Show take-off for Airbus Industrie's new A340, A330 and A321 fleet

The worst may be over

Defence cuts and the slump in civil aviation have inflicted a severe downturn on the industry over the past two years. Now there are signs of slow recovery, writes Paul Betts, Aerospace Correspondent

dedent buying binge of the late 1980s. In turn, manufacturers have had to accommodate these cancellations and deferrals by cutting production sharply.

Boeing, the world's largest commercial aircraft manufacturer, is reducing production by as much as a third from 32 to 21 airliners a month by 1994. Both Airbus and McDonnell Douglas have also been cutting output. Total deliveries of new airliners are now expected to drop to around 500 aircraft a year from a peak of 844

in 1991 and 790 last year. The ripple effect has been felt throughout the industry as suppliers and subcontractors, as well as manufacturers of smaller commuter and regional aircraft and aero-engine makers, have had to bite the bullet.

Growth in air traffic is at last improving again and showing a real increase over 1990, the year before the Gulf conflict. This coupled with economic recession, sent traffic falling in 1991 for the first time since annual records started to be kept in 1929.

But the growth has remained far lower than airlines had expected, leading to overcapacity throughout the industry. The restructurings, expenditure cuts, and aircraft order cancellations and deferrals are likely to start bringing capacity back to balance with travel demand by the end of this year.

The retirement rate of older jets is also expected to bolster demand for new aircraft. Already, about 1,000 aircraft in the world airline fleet are 25 years old - the average life

cycle of modern jets. The number is likely to rise to around 2,500 by the beginning of 1995.

A robust recovery in the rate of new aircraft orders, in the short-term is unlikely, however, even though the industry continues to expect strong long-term demand for new aircraft, with deliveries worth more than \$800bn forecast over the next 18 years.

Until airline finances improve, the industry will face the challenge of financing the high cost of new equipment and aircraft. Most of the recent

cost-cutting measures, according to Moody's, the US rating agency, will only partially offset the industry's weak financial position.

"We don't know what kind of airline industry will emerge from this recession, which has already taken some large airlines out of the game," says Sir Ralph Robins, the chairman of Rolls-Royce, the UK aero-engine manufacturer. He expects little improvement in underlying trading conditions over the next two years.

Manufacturers have also had to maintain a high rate of research and development spending on new products with long lead times in order to secure their longer-term future. With non-recurring research and development costs growing far more rapidly than inflation, manufacturers in all sectors of the civil aerospace industry, including airframes, aero-engines and components, have been scrambling to forge partnerships or, in some cases, combine their operations in mergers to reduce the high risks of new project development and to compete more strongly in an increasingly global and concentrated industry.

Deutsche Aerospace has just taken over control of Fokker, the Dutch aircraft manufacturer, while McDonnell Douglas is seeking investors to acquire up to 49 per cent of its commercial aircraft activities based in Long Beach, California. Bombardier of Canada has absorbed Shorts, the Belfast manufacturer, Learjet, the US corporate aircraft maker, and De Havilland of Canada. British Aerospace has formed a joint company with Taiwan Aerospace for its regional jet business and is now looking for partners to invest in its turbopropeller aircraft activities.

A similar trend of consolidation is now spreading through the defence sector. Since the end of the cold war, the defence market has been shrinking as governments have cut their defence spending and reduced the number of new programmes.

The decline is expected to last several more years. By the turn of the century, the

defence business could be half what it was in the 1980s. The consolidation of the industry has seen some companies opting to pull out of some businesses, while others have either sought to merge their activities with partners or expand by acquiring the defence businesses of rival companies.

In the guided weapons sector, for example, the cold war spawned more companies in Europe and in the US making missiles or systems for missiles than could survive in an age of diminishing government defence budgets. This has led to a significant shake-up in the US with Loral's takeover of the former LTV group's guided weapons activities and the sale of General Dynamics' missiles division to Hughes Aircraft, part of General Motors. In Europe, British Aerospace is now considering the merger of its missiles business with those of the French Matra group, while other European manufacturers are also in active merger discussions.

"A process of natural selection is now taking place in the defence sector," says Mr Keith Hodgkinson, aerospace analyst at Shearson Lehman. As the number of big new defence contracts declines, every deal has turned into a matter of "life and death" for many companies, he explains.

Under the circumstances, it is not surprising that trade tensions have continued to simmer on both sides of the Atlantic. Several US companies have decided not to exhibit at Paris because they claim French companies have used air shows to spy on them, a charge rejected with derision by France's aerospace industry.

Although the US has finally reached a compromise with the European Commission on the long-running dispute over aircraft subsidies, accusations have continued to fly between Washington and Brussels over unfair government support for their respective industries.

And while Airbus partners have agreed this year to collaborate with Boeing on joint studies to develop a new generation super jumbo, capable of seating up to 600 passengers,

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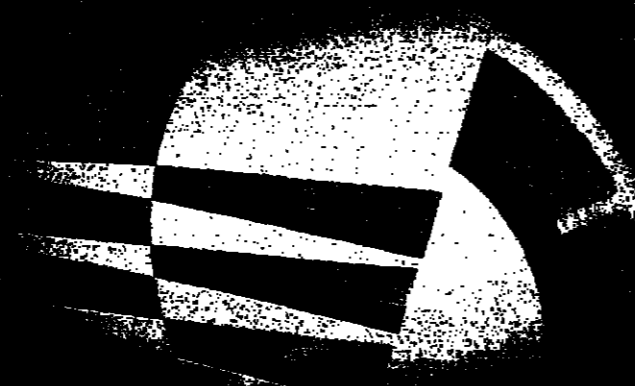
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Editorial production: Gabriel Bowman

and marking what could perhaps be the beginning of a new realignment in the world aircraft industry, an atmosphere of suspicion and mutual distrust continues to prevail.

This was eloquently reflected by the response of a senior Airbus executive to suggestions that the Europeans had attempted to spy on Boeing to gain information on its 747-400 jumbo. "It's as if the famous French chef, Paul Bocuse, was caught spying at McDonald's to steal its cooking secrets,"

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## AEROSPACE 2

Paul Betts on the prospects for commercial aircraft manufacturers

## Upturn is still awaited

COMMERCIAL AIRCRAFT manufacturers around the world have been scrambling to cut production and employment so as to adapt to the siege-like conditions facing the industry.

Boeing, the world's biggest manufacturer of commercial jets with about 60 per cent of the world market, is reducing overall production by 35 per cent. It announced this year it would cut 28,000 jobs over the next 18 months.

McDonnell Douglas, now trailing behind the European Airbus consortium as the world's third commercial aircraft maker, is reducing its workforce by 10 per cent this year after cutting it by 20 per cent last year. By the end of

suffered three major slumps which were followed by sharp recoveries. But the situation is different this time because the slump has coincided with a decline in the defence side of the aerospace business, which helped sustain manufacturers during the previous cyclical downturns.

Although all three big manufacturers remain confident about long-term prospects for the industry, they are uncertain when the market will finally pick up. Most conservative estimates expect the upturn to occur around 1994 or 1995. Recovery is likely to be more gradual and less vigorous than in previous cycles.

Airlines, which have made a cumulative loss of more than \$10bn on international scheduled services over the past three years, are continuing to defer and cancel new aircraft orders booked during the buying spree of the late 1980s.

Boeing now concedes in the 1993 edition of its annual industry market outlook that "it was evident that airlines and leasing companies were ordering more aircraft than was necessary to meet demand," and that the manufacturers in turn increased production to meet this demand.

In 1989 alone, at the height of the order boom, a total of \$90bn worth of new jet orders was booked by the manufacturers. Bookings last year fell to \$29.9bn in reaction to overcapacity, difficulties in financing, slow traffic growth and monumental airline losses.

Although cancellations and order deferrals will eventually slow down as the balance between capacity and demand improves, a significant problem will be financing. "The airline industry is plagued by

growing financial difficulties," acknowledges Airbus in its 1993 market study. "Current financial difficulties mean that many airlines are unable to raise funds to replace ageing fleets," it adds.

The replacement of older aircraft together with air travel growth are the two main components for aircraft demand. Airbus expects some 2,100 narrowbody jets and 500 widebody aircraft to be retired over the next five years to make way for some 3,300 new aircraft. Boeing for its part estimates that of the 12,005 aircraft to be delivered between now and 2010, 25 per cent will be to replace older jets.

So far, however, the rate of retirements has been much

or increasing in real terms.

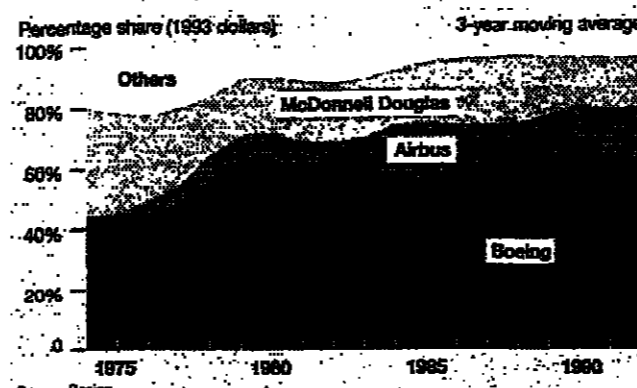
"A quantum reduction in aircraft price through production cost improvements is necessary for the financial health of both the airline industry and the manufacturing industry," British Airways, one of the few large profitable carriers, recently warned. Around the world more than 700 aircraft, which could be used, are grounded or for sale. While both the airline and aircraft manufacturing industries are near the trough of their economic cycle, BA says: "Unless there is an early resumption of long-term growth, together with new aircraft prices that airlines can afford, current orders could be further threatened with implications for the whole supply chain."

Manufacturers have responded by introducing greater automation in design, manufacturing and assembly processes to improve dramatically productivity. But this has not been sufficient to offset the ever-increasing costs of new product development.

Non-recurring research and development costs have been growing far more rapidly than inflation at a time when balance sheets have continued to be squeezed by the recession in the industry. At the same time, no manufacturer can clearly afford to risk abandoning or placing on ice future product development programmes if it wants to remain competitive in the longer term and take advantage of the eventual market recovery.

This has pushed manufacturers towards increasing international co-operation and seeking risk-sharing partners for new project developments. Even Boeing, reluctant in the past to share its programmes, has

## Commercial airplane deliveries



been actively talking for the first time of forging equity links with other international partners.

For Boeing the practice of contracting with global suppliers was at first small, but it has been steadily growing over the years. Its first 707 had almost no foreign content. The 727 had less than 1 per cent, the 737 slightly more. Collaboration with other partners expanded with the 767 when the Seattle manufacturer established risk-sharing agreements with Japanese manufacturers and the Italians. The Japanese subsequently took a 20 per cent risk-sharing stake in the 777, Boeing's big twin engine widebody programme, already at an advanced stage of development.

McDonnell Douglas sees the solution of its problems in collaboration and global partnership. Mr John McDonnell, chairman of the US aerospace and defence group, wants to set up a new commercial aircraft company with a series of international equity partners prepared to invest in the development of new products.

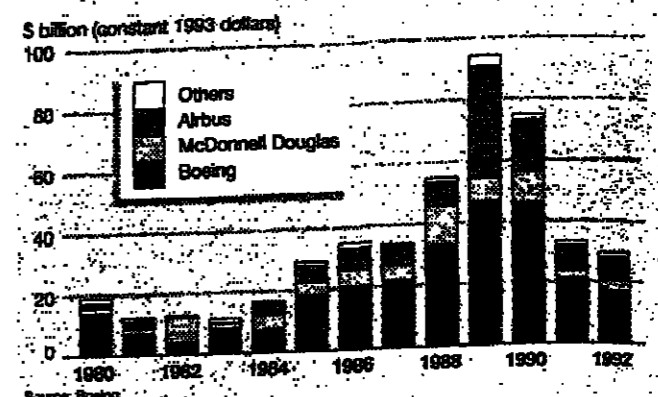
Mr McDonnell failed to clinch a partnership last year with Taiwan Aerospace, which was proposing to invest \$200m for a 49 per cent stake in the Douglas civil aircraft business based in Long Beach, California. But the US group says it is engaged in mature discus-

sions with a number of potential partners, including several in the Asia-Pacific region.

If successful, it would give McDonnell Douglas a similar risk sharing system operated by Boeing with the Japanese manufacturers and by the four European manufacturers in the Airbus consortium. "Airbus has become a model for such ventures in the aerospace and other capital-intensive industries," says Mr Pierson.

In the span of 20 years, Airbus has developed a highly sophisticated system for the integration of complex indus-

## Announced new orders



trial processes across Europe, created a network of co-operation between major European manufacturers, and set in motion an irreversible trend of trans-national co-operation in the industry.

"Investments in research and development, production and after-sales service for large civil aircraft were, and probably will remain, simply enormous," says Mr Pierson. "A new aircraft programme today is in the \$3-4bn bracket with a maximum risk of exposure close to \$7-9bn. Such risks are simply too much for a single manufacturer to bear," he explains.

In the face of all these pressures, new realignments are starting to emerge which could lead to a profound transformation in the structure of the commercial aircraft industry over the next decade. The first eloquent signs that this is beginning to happen is the agreement at the end of January between Boeing and the four partners of Airbus, its main European rival, to study the joint development of super jumbo capable of seating up to 800 passengers.

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## David White on the cost of military aircraft

## After the cold war

WHY CAN our air forces not make do with simpler aircraft? Why is it necessary to push technology - and costs - to such extremes?

The questions, frequently asked nowadays in a climate of declining defence budgets, are not new.

If governments had taken the advice given to them in 1917 by Cyril Hall, in his book *By Land, Sea and Air*, they would have stuck to biplanes. In a section on *Modern Weapons of War* he pooh-poohed the hopes that Germany, in particular, had vested in the monoplane.

"The monoplane," he wrote, "has a very limited speed range. Its maximum speed may be anything up to 120 miles an hour, but its minimum is seldom less than 90 miles an hour. You can see what a grave disability is this high speed. Accurate observation is impossible, because the observer is travelling too fast clearly to see what is taking place on the ground. And it is too high for bomb-dropping. For what sort of chance of hitting the place at which it is aimed has a missile dropped from an aeroplane travelling at 90 miles an hour?"

This argument seemed to justify his conclusion: "It is highly unlikely that the development of the monoplane will be carried further."

Its echoes can be heard today. The end of the cold war has, in the past couple of years, brought a whole series of new combat aircraft projects under criticism and scrutiny. Because of the time needed nowadays to bring new aircraft into production, the fighters now under development were all conceived when the cold war was at its height.

In the US, industry has sensed the imminent crunch. General Dynamics' sale to Lockheed late last year of its Fort Worth aircraft operation, maker of the successful F-16, means that there are now two primary poles for design and manufacture - McDonnell Douglas and Lockheed.

Lockheed was already linked with General Dynamics in the F-22 project, the top-of-the-range fighter designed to suc-

ceed McDonnell Douglas' F-15. Until the F-22 award in 1991, Lockheed seemed to be in the process of being sidelined after the completion of its F-117A stealth aircraft programme. Now the Fort Worth acquisition, says Mr Dan Telles, Lockheed's chairman and chief executive, has "fundamentally transformed the landscape of military aircraft in the US."

Even if the F-22 project were cancelled - one of the options, if not the most likely, under consideration at the Pentagon - Lockheed would count on a role in whatever took its place. "It wouldn't devastate us," says Mr Telles.

Priority has been given by the new Pentagon team to sorting out the four new tactical aircraft projects

The Pentagon's priority is to sort out four new tactical aircraft projects

cal aircraft projects planned for the US Air Force and Navy. All are clearly not affordable in the same timeframe. The odds favour the F-22, although possibly with a curtailed and slower programme, and the new B/F versions of McDonnell Douglas' carrier-borne F/A-18 Hornets. This would be at the expense of plans for a new multi-role fighter and the A/FX naval strike aircraft, cancelled two years ago.

Northrop's B-2 strategic stealth bomber programme has already been cut to 20 aircraft, and the Pentagon has threatened to stop the McDonnell Douglas C-17 heavy transport aircraft and find an alternative to the troubled \$41bn programme. Other options for heavy airlift, if the contractor fails to meet requirements, are versions of Boeing's 747 and 767 airliners, a life-extension of the current Lockheed C-141 Starlifter or a restart of production of its C-5 Galaxy.

Europe's moment of panic appears to have passed with the patching-up last December of differences between Germany and Britain on the future of the European Fighter Aircraft.

The existence of three new-generation European fighters - the Swedish JAS 39 Gripen, the French Rafale and the Anglo-German-Italian-Spanish Eurofighter, all of similar delta-wing design with "canard" foreplanes - may seem excessive. But all are now secure, even though Germany still places a question-mark on its commitment on the production phase of Eurofighter.

The lightweight, multi-role Gripen (JAS is an abbreviation for fighter, attack and reconnaissance) is the furthest down the road. This is despite the setback suffered in 1989 when its first prototype crashed (not a unique occurrence: the US F-22 had a similar mishap in April 1992 at Edwards Air Force Base in California). The first production model of the aircraft - single-engine, in contrast to the twin-engine Rafale and Eurofighter - flew in March, and 140 are on order for delivery between now and 2001.

Dassault's Rafale, launched at the same time as the Eurofighter, has stolen a march on its heavier four-nation rival inasmuch as it at least has prototypes flying. But the programme could be vulnerable to cuts or further delays in purchase plans. Three different versions are being built - one-seat and two-seat aircraft for the air force and a carrier version for the navy. Current plans are for some 320 in total with the first navy squadron entering service late in 1996 and the first air force squadron at the end of 2000.

Preliminary discussions are already under way on new collaborative arrangements for the next generation. British Aerospace has begun contacts with Saab on a possible aircraft to fill the gap in the market now being successfully occupied by the Hawk trainer-cum-fighter. It has also talked to the French on the next frontline fighter to succeed the Rafale and Eurofighter. France cannot afford to go it alone again, and British industrialists and officials believe that any future project on this scale in Europe can be undertaken only on the basis of Anglo-French co-operation.

Delivery forecasts have been cut, writes David White

## Helicopters held back

THE NEWS will be when a helicopter programme happens on time and according to plan. In both the US and Europe, all major military projects - the backbone of the industry - have been subject to delays in development or procurement.

Manufacturers have scaled down their forecasts for deliveries over the next 10 years, particularly on the military side. But total deliveries of civil helicopters were lower than expected last year at 850, compared with more than 1,000 in each of the previous two years and a rate of around 1,500 a year in the early 1980s before sales slumped.

Excluding small piston-engined craft, industry predictions are for a gradual recovery on the civil side from last year's 380 deliveries, with predicted averages of close to 500 a year up to 2002.

In the military sector, industry forecasts point to a market of about 12,600 helicopters in the 20 years from 1993 to 2011, worth about \$105bn. North America is expected to account for about 4,000, Europe 3,300, south-east Asia and Australasia about 2,500 and the Middle East 1,100. Peak delivery levels are expected from 2003 to 2008.

What the industry will look like by then is a subject for speculation. Westland has continued to talk about closer ties with Agusta, while Eurocopter, the joint venture between France and Germany's Deutsche Aerospace, advocates broader European links. Since last year, McDonnell Douglas, which bought its helicopter division from Hughes in 1983, has been in the market for "joint ventures, partnership or sale".

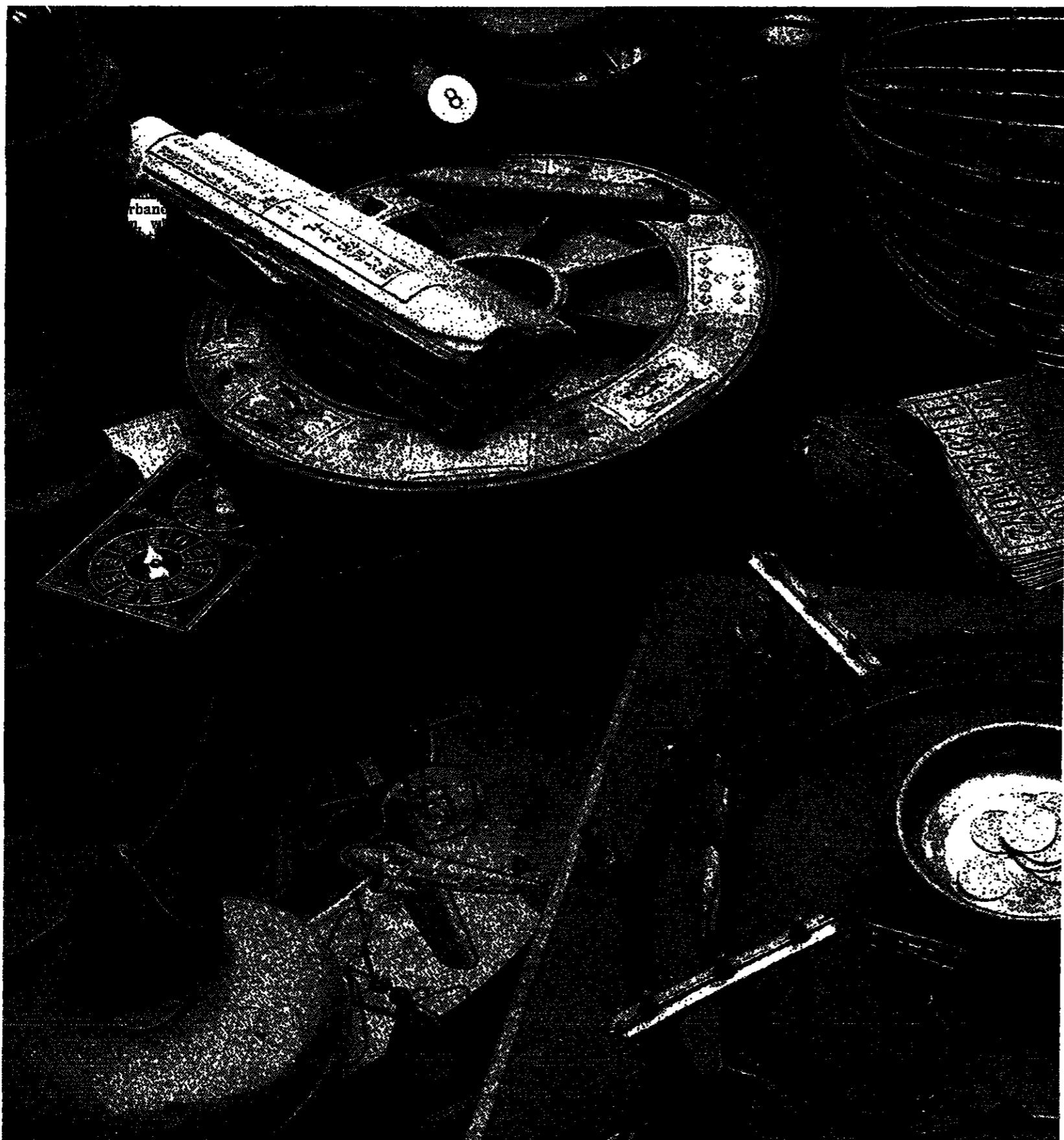
This might mean different product lines going to different companies. Eurocopter is understood to have been interested in a purchase last year, but transfer of the AH-64 Apache attack helicopter to a foreign company was clearly out of the question.

McDonnell Douglas sees the helicopter division drawing good profits from the Apache for years to come. But one executive commented: "It's hard to make a successful company out of a single product." The Apache is being put forward, in a joint bid headed by Westland, as the leading contender for a UK army contract due to be decided next year for some 100 helicopters, worth about \$2bn. Among four other

groups invited to bid, the main rivals are the CobraVenom, an updated version of the veteran Bell SuperCobra led by GEC-Marconi Avionics, and the Eurocopter Tiger, which is under development for French and German forces. British Aerospace is heading the Tiger bid for the UK. The helicopters are due to enter service - barring further delays - in 1998.

Two European naval and utility helicopter projects - the Franco-German-Dutch-Italian EH-90 and the Anglo-Italian EH101 - are now fully under way. The EH101 last year won a Canadian contract for 50 naval helicopters, but that would be vulnerable under a change of government.

In the US, the Bell-Boeing V-22 Osprey tilt-rotor aircraft, beset by two prototype crashes and attempts by the last US administration to stop the programme, is expected to be reinstated. But army plans, including Apache upgrades and purchase of a fleet of 1,292 Boeing/Sikorsky RAH-66 Comanche scout helicopters are being reviewed. The \$40bn Comanche programme has been slowed down, with the operational deadline slipping four years to 2003.



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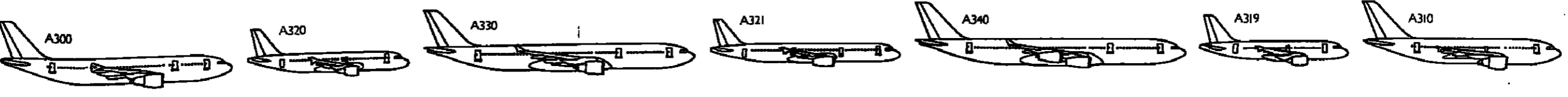
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Why the trend to larger widebody jets seems unstoppable

## The bigger, the better

SIZE rather than speed is becoming the dominant trend in commercial aviation. "The next big challenge for the industry will be the development of ever-larger jumbos capable of carrying 600 to 800 passengers rather than a second generation superjumbo airliner," says Mr Adam Brown, planning director at the European Airbus consortium.

The average size of airlines has been growing steadily during the past decade from 176 seats in 1980 to 193 seats last year. Boeing, the world's biggest commercial aircraft manufacturer with about 60 per cent of the western market, forecasts the average will increase to about 227 seats by 2010. It expects larger widebody aircraft will account for 58 per cent of all seats delivered during the next 15 years.

This trend towards larger aircraft is driven by two factors: long-range, non-stop travel is expanding while on shorter routes big aircraft are seen as a way of beating congestion at busy airports. The new generation of jumbos also offers airline operators the opportunity to reduce their operating costs through a combination of enhanced technology and greater capacity.

Although the recession in the airline industry has forced the three big manufacturers - Boeing, McDonnell Douglas and Airbus - to cut production following a series of order cancellations and deferrals from financially pressed airline customers, all have forged ahead with development of new wide-body aircraft.

Boeing, which has dominated the long-distance wide-body market with its four-engine 747 jumbo, is now in advanced development of the 777, a new family of twin-engine widebody airliners with versions for medium range flights and others for longer routes.

It has invested about \$4bn in the development of the 777 which will enter service in 1995. The three Japanese aerospace companies (Mitsubishi Heavy Industries, Kawasaki Heavy Industries and Fuji Heavy Industries) have participated closely in this programme with a share of

around 20 per cent of the new aircraft.

The European Airbus consortium is now mounting an increasing challenge against Boeing's dominance of the big widebody market with its new family of A330/A340 widebodies. The A340 entered service this year. This four-engine airliner boasts the longest range of any civil aircraft capable of flying non-stop with a full passenger load for 16 hours or more. Later this year, the European consortium will start delivering to customers the A330, the twin engine sister of the A340.

In this market, McDonnell Douglas is competing with its MD11 - three-engine jet. Although it has been retrenching heavily in the face of the industry slump, it is continuing to study the development of a larger stretch version of the MD11 as well as of a new, even bigger four-engine jumbo, the MD12.

However, these plans depend on the company's ability to complete the restructuring of its commercial aircraft activities.

The development of a super jumbo faces significant technical and financial hurdles. Many safety issues are raised, while costs are an even bigger obstacle

world markets.

To compete against the A330/A340, the 777 and the MD11, the Russian manufacturer Ilyushin has co-operated closely with US manufacturers to develop the Ilyushin 96M. This four-engine widebody with seating capacity for 386 passengers is the fruit of co-operation between the Russians, the US Pratt & Whitney group, which is providing the engines for the new aircraft, and Rockwell-Collins, which is supplying the avionics equipment and systems.

European and other US aerospace companies are now increasingly interested in working with the Russian industry. While strong on airframes, the Russians are seeking western help in particular for engines, avionics and cabin interiors to develop new airliners according to western standards for aircraft certification and passenger comfort.

But the biggest challenge of all for the commercial aircraft manufacturers will be the development of a very large aircraft capable of seating up

super jumbo faces significant technical and financial hurdles. "It's always a nightmare building a big aircraft," says Mr Ken Brundle, head of aircraft operations at Shorts, the Belfast-based aerospace company.

An aircraft of such size will require a significant amount of composite materials to keep its weight down. Many safety issues are raised, such as how to evacuate large numbers of passengers from both the top and upper decks of a double decker. Terminal gates will probably need to be redesigned and runways strengthened. For maintenance, new extra large hangars will have to be built. "Existing ground facilities and equipment are simply not adequate to handle such a double decker giant aircraft," says Mr Hideo Aoki, the engineering and maintenance director of ANA.

The costs of developing a super jumbo are an even bigger obstacle. The manufacturers estimate development would cost well over \$10bn. "From an economic standpoint the crucial question will be how many of these aircraft will be needed. Estimates range from 200-300 aircraft to around 600-700 aircraft. I think 300 is probably the more realistic number," Mr Yoshikawa says.

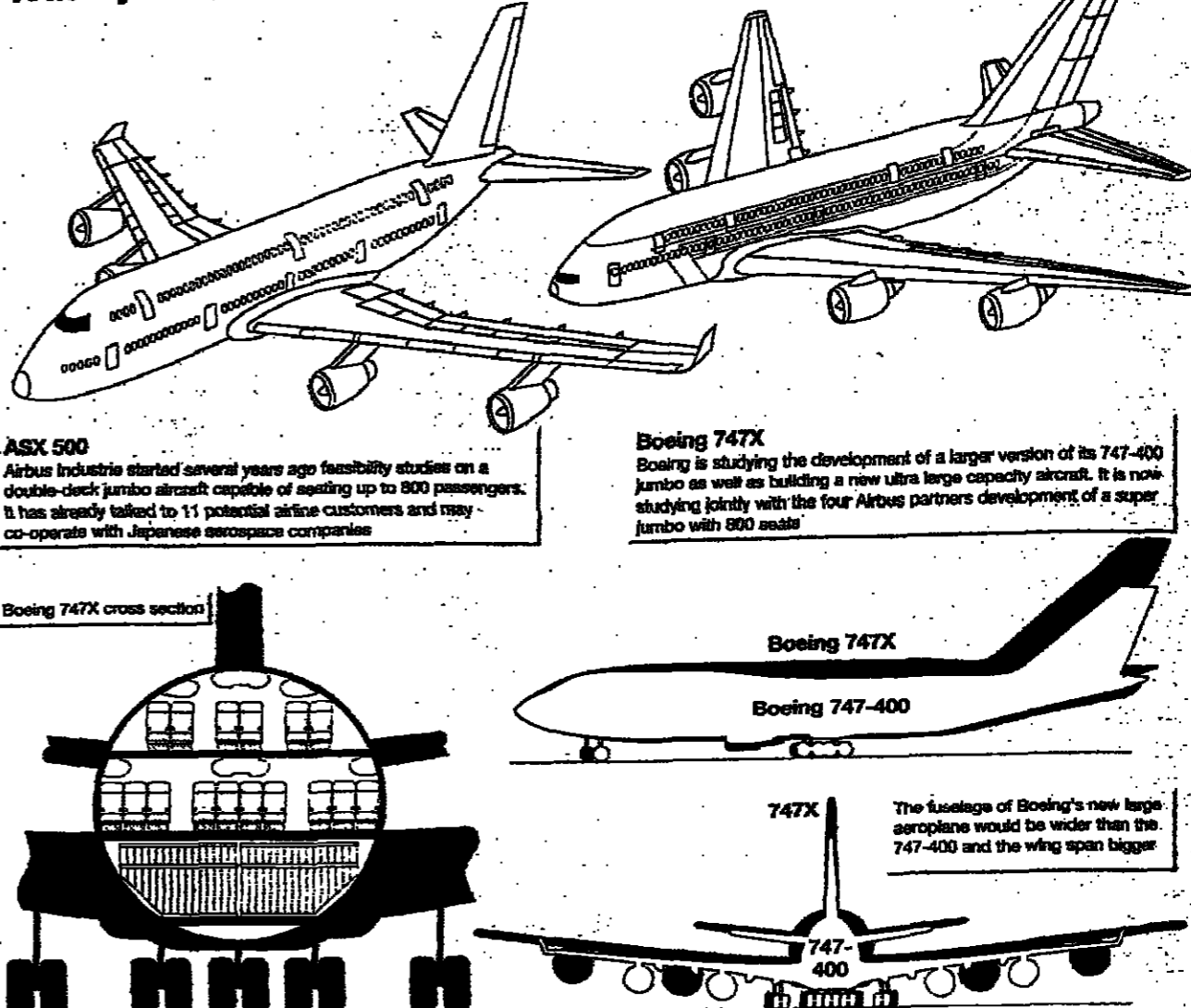
At these costs, no single company could contemplate assuming the full risk of developing a super jumbo on its own. The only way forward will be through wide-scale co-operation between big manufacturers.

This has already led to perhaps a significant move in international collaboration in the commercial aircraft industry with Boeing's decision to join forces with the four Airbus partners (Aerospatiale of France, Deutsche Aerospace, British Aerospace and CASA of Spain) to study jointly a super jumbo. We said the big aircraft," says Mr Kenzo Yoshikawa, purchasing director of the Japanese airline All Nippon Airways. Other large carriers in the Asia-Pacific region, the US and a few in Europe have also expressed interest in a new large aircraft to enter their fleets at the turn of this century.

But the development of a

Paul Betts

A new jumbo dimension in air travel



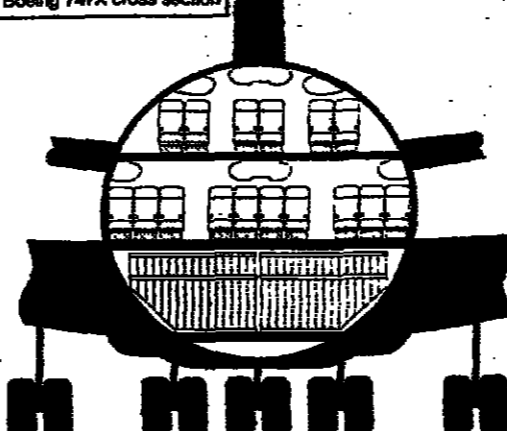
ASX 500

Airbus Industrie started several years ago feasibility studies on a double-deck jumbo aircraft capable of seating up to 800 passengers. It has already talked to 11 potential airline customers and may co-operate with Japanese aerospace companies.

Boeing 747X

Boeing is studying the development of a larger version of its 747-400 jumbo as well as building a new ultra large capacity aircraft. It is now studying jointly with the four Airbus partners development of a super jumbo with 800 seats.

Boeing 747X cross section



Boeing 747X

Boeing 747-400

747X

747-400

The fuselage of Boeing's new large aeroplane would be wider than the 747-400 and the wing span bigger.

Paul Betts on how airlines are adapting to lower traffic growth rates

## Giants emerge to jostle for position in world market

THE AIRLINE industry is in a state of turmoil. "All indications are that the early 1990s will be remembered as perhaps the most critical period in the industry's evolution," says Mr Karl-Heinz Neumeister, the secretary general of the Association of European Airlines.

Although traffic is now recovering after the slump caused by the combined effects of the Gulf war and economic recession, many world airlines are continuing to show heavy losses as they struggle to survive in an increasingly competitive market.

Apart from the traffic slowdown - in 1991 airline traffic fell by 3 per cent to show the first decline since the second world war - airlines have had to adapt to a regulatory revolution which has seen liberalisation spreading from America to Europe and in other regions of

The pick-up has been slow, with continued pressure on revenue yields

the world.

There are signs of a structural change in the traditional "boom and bust" cycle of the industry. Previous cyclical downturns have been followed by sharp recoveries. In the current cycle, however, the pick-up has so far not only been slow but has seen continued pressure on airline revenue yields.

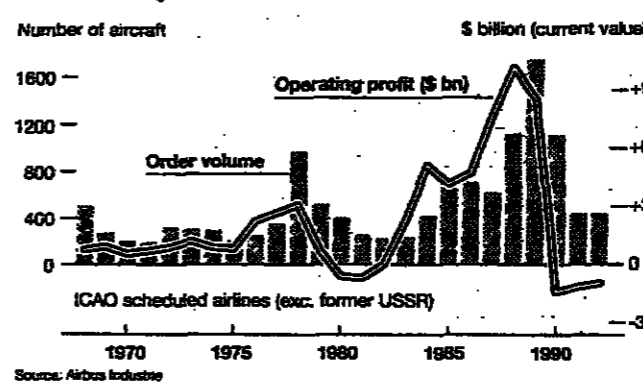
While airlines have seen their lower yielding economy cabins filling up with passengers again, first and business class traffic has remained sluggish. Some airlines have reported drops of between 10 to 20 per cent in first and business class passengers this year, while others say the trend of passengers downgrading from first to business or from business to economy class is continuing.

The capacity offered by airlines has also been outstripping passenger demand, although International Air Transport Association figures suggest that capacity is gradually becoming more balanced with demand in recent months. But there are still about 800 aircraft lying idle in the Arizona desert because of lack of demand, and the industry will remain under heavy pressure until the excess capacity in the market is finally absorbed.

Overcapacity has fuelled fierce fare wars as carriers have attempted to fill their seats and maintain market share at the expense of very poor financial returns. As a result, the airline industry reported a heavy loss of around \$5bn on international scheduled services in 1992. Accumulated losses during the past three years now total more than \$10bn and the industry is expected to show another big loss this year.

Both the airline industry and commercial aircraft manufacturers have been revising downwards their estimates for long-term traffic growth, which will be principally

### Financial performance versus order volume



### SIZE OF THE GLOBAL ALLIANCES

|   | Sales<br>(US \$m) | RTK<br>(m) | RPK<br>(m) | Pax<br>(m) |
|---|-------------------|------------|------------|------------|
| British Airways + Air France<br>+ Deutsche BA | 9,090             | 9,111      | 65,896     | 25,42      |
| US Air  | 6,514             | 5,400      | 54,877     | 55,80      |
| TAT   | 487               | 182        | 2,143      | 3,15       |
| Qantas + Air NZ                               | 3,099             | 3,904      | 28,836     | 4,53       |
| Australian                                    | 1,168             | 745        | 7,643      | 7,35       |
|   | 20,338            | 19,342     | 159,395    | 95,05      |
| SIA   | 4,148             | 2,460      | 15,163     | 7,98       |
| Delta   | 10,063            | 11,248     | 108,383    | 74,19      |
| Swireair                                      | 3,185             | 5,331      | 34,894     | 8,13       |
|   | 17,394            | 19,039     | 158,440    | 90,30      |
| Swireair + CTA + Crossair                     | 3,185             | 5,331      | 34,894     | 8,13       |
| SAS + BMA + Spanair + LAN - Chile             | 5,807             | 1,847      | 15,416     | 13,50      |
| Austrian                                      | 847               | 385        | 3,510      | 2,53       |
| KLM + Air UK + Transavia + Martinair          | 4,189             | 4,888      | 28,736     | 8,22       |
| Northwest                                     | 7,534             | 10,738     | 86,787     | 41,24      |
|   | 21,592            | 23,289     | 169,343    | 74,32      |
| American                                      | 12,887            | 15,368     | 132,502    | 75,90      |
| Lufthansa                                     | 8,746             | 9,376      | 52,344     | 29,50      |
|   | 22,633            | 24,744     | 184,846    | 105,40     |

Figures in millions. RTK: Revenue tonne kilometres. RPK: Revenue passenger kilometres. Pax: Passengers. All figures in millions. Source: The Airline Industry, April 1993

Plymouth-based Brymon.

BA has been able to take advantage of its financial strength and the weakness of others to build this formidable set of global alliances. But other European carriers are now also actively seeking to increase co-operation links with other carriers to survive in the global market.

One of the most significant developments of recent months has been the partnership discussions between four European medium-sized airlines - Swissair, Scandinavian Airlines System, KLM Royal Dutch Airlines and Austrian Airlines - aimed at combining their operations under the umbrella of a single jointly-owned company. Between them, the four carriers would create Europe's biggest airline and what they call "a fourth force" in the European market to compete against the big three - British Airways, Air

Medium-sized airlines plan to create "a fourth force" in the European market

France and Lufthansa.

Air France has also been increasing its mass by absorbing UTA, the French independent long haul carrier, taking over Air Inter, the domestic French airline, and acquiring a strategic equity stake in Sabena of Belgium. For its part, Lufthansa is currently negotiating an alliance with American Airlines and discussing partnerships with other carriers including Austrian Airlines.

While jostling to position themselves in the global market, airlines continue to be worried by the problems of congestion in the skies, because of inadequate air traffic control systems, and on the ground, because of the slow pace of new development at crowded airports. Both threaten to clip the wings of growth when the recovery in air travel starts gathering steam. As Sir Colin Marshall, BA's chairman, recently put it: "The overriding challenges we face are essentially two: the increasing level of deregulation in the industry and the old chestnut of infrastructure."

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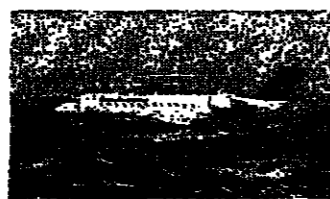
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David Boggis finds business aviation executives more optimistic

## Phones start to ring again

OPTIMISM is returning to the UK's business aviation industry after a period that left companies "punch drunk" and "shell-shocked", according to Mr Danny Forman, chief executive of the General Aviation Manufacturers and Traders Association.

Gamta, which works from offices near Aylesbury, Buckinghamshire, represents business aviation in the form of companies ranging from equipment suppliers to executive-jet dealers. It promotes the growth of general aviation which, it explains, makes up more than 90 per cent of all UK-registered civil aircraft.

With the dark days of recession finally over, Mr Forman says, "the phones are ringing" with inquiries - not just about aircraft acquisition but about flying training.

Flying training is important because many of the industrial company executives responsible for placing orders for aircraft or charter services are pilots first and buyers later.

Upbeat confidence also comes over from Mr Anthony Hutton, director of the Flight International Business and Light Aviation Exhibition, a trade-oriented showcase for general aviation due to be open at North Weald airfield, Essex, on September 8-11. Mr Hutton, who notes that his show has no flying display or other crowd entertainment, reports "an extremely optimistic" view of the future among companies. That has emerged since last September's Farnborough air show after a deterioration in confidence over the preceding year.

Not all the indications are so buoyant. In some companies, the corporate aircraft fleet has become a casualty of the recession.

United Biscuits has sold its King Air twin-turboprop, BP, the oil multinational, has got rid of a much costlier fleet, all jets: an intercontinental Gulfstream IV and two medium-range British Aerospace 125-800s (otherwise known as the Corporate 800).

United Biscuits explained: "In the present climate, we could not justify the aircraft." The company's executives are still travelling, but mostly now on airlines. If business is pressing, or if several people need to travel, the company will charter an aircraft.

BP's decision follows a recent management change. The company said: "We decided it was not cost-effective to use the jets this way." Now BP's use of charters has increased, mainly to countries of the former Soviet Union.

Ms Janice Hahn, of the Business Air Centre, a London charter broker, agrees that business from industrial companies has increased. Having received little such business during two years of recession, BAC now finds old clients returning with urgent requests.

"Bookings are up by about 30 per cent," Ms Hahn says. The proportion of business that BAC receives from industry is going up. "They are going out there to look for business."

Business for the centre looks unlikely to come from Glaxo. The company operates four jets and, after a review of costs, is getting rid of only one, a Gulfstream IV. The other three are staying, Glaxo says, because "it makes efficient use of executive time".

The aircraft that remain are a BAe 125-800, operated within the US; a Dassault Falcon 900 used by the board, and another G-IV, which runs a shuttle between Heathrow and the company's facility in North Carolina. There is no direct airline flight on that route.

Glaxo comments: "Our senior people are encouraged to visit the markets." Sir Anthony Bamford, chairman of JCB, makers of earth-moving equipment, says of the company's BAe 125-800: "It's my

office in the air." The company places importance on the amount of work that can be carried out actually during a flight.

Sir Anthony adds: "We have looked at giving up [the jet] as one of the ways of cutting overheads, but I think it is a valuable sales tool - particularly during a recession when you have got to go out and get customers."

JCB, which exports more than 70 per cent of its production, also operates an

"We have looked at giving up [the jet] to cut overheads, but it is a valuable sales tool when you have to go out for customers"

- including the King Air, market leader in the twin-turboprop cabin class - is offering aircraft on lease as well as for sale.

Mr Mike Lacey, Air Hanson's aircraft sales manager, says: "Aircraft are being targeted by accountants as unnecessary expenses." In the light of that, leasing becomes attractive, as the aircraft remains off the balance sheet.

Air Hanson's drive for more customers, in either form, reflects worries about the health of the UK economy in relation to economies in Europe. "A great number of businessmen don't take the continent seriously," Mr Lacey says. He adds: "My concern is that there has been a net exodus of aircraft from the UK, and the French and German aviation community is growing."

The dealer's campaign for lease customers emphasises the Beech Starship, a strikingly unusual design with a canard foreplane, fins at the wings, and turboprops driving pusher propellers. The Starship's impact on the European market has so far been limited.

Its competitors include Cessna's Citation range of twinjets. Cessna, which is based, like Beech, in Wichita, Kansas, has a representative office in Surrey that handles marketing for the UK, the Iberian

peninsula and the Middle East.

Mr Barrie Sampson, regional sales manager for the Citation, says that, with the 2,000th of the type recently rolled out, the aircraft has overtaken the Learjet range to become market leader in the light jet category. Citation clients may deal through a finance company that will own the jet and lease it to the end-user, but Cessna wants sales, not leasing deals.

Mr Sampson is optimistic that his office will sell six or so of the 120 Citations that Cessna hopes to move this year. Over the past quarter, he says, "there has been a significant pick-up in the level of interest in the market."

His positive tone is echoed by Bob Crowe Aircraft Sales at Cranfield, Bedfordshire. Mr Bob Crowe says the mood among buyers has altered in recent months compared with the previous couple of years.

"We have never been so busy, talking to qualified buyers," he says. "Sales this past six months have been extremely strong. There has been much interest from UK buyers in the past two months." Otherwise, many sales have been to buyers abroad.

The company handles a big proportion of used aircraft, as well as dealing in new aircraft sales of the turboprop Cessna Caravan I and II. Up to 25 aircraft a year pass through the company's hands, giving a turnover in a typical year of \$7m.

The "punch-drunk" days for the UK business aircraft market seem to be over. The industry is off the ropes and beginning to fight back.

Profitability in this high-risk sector is threatened, reports Daniel Green

## Cut-throat scraps over space

THE BLUE skies that once attracted aerospace companies to commercial space markets are clouding over. A combination of technological and political changes is saturating the markets for launchers, satellites and ground equipment and threatening profitability and confidence in this high-risk business.

Most of the commercial space industry is about telecommunications, a sector being driven so quickly by technology that future growth prospects are being undermined.

Rach generation of satellites packs in yet more transmitting power, using the latest miniaturised electronics. At the same time, the rocket improvements have gradually pushed up the average weight of a satellite launcher can now put satellites weighing several tonnes into space.

The result is huge jumps in the numbers of telephone calls each satellite can handle, a rate of increase far larger than the growth in the number of long distance telephone calls actually made.

At the same time, improvements in rocket accuracy and satellite design mean that sat-

ellites last longer in orbit. Lifespans have crept up from less than 10 years a decade ago to more than 14 years now. With satellites lasting longer, they need to be replaced less often.

Add to that the power of undersea fibre optic cables, which compete with satellites to carry long distance calls, and it is clear that the number of new satellites that will be needed by the world's telephone companies is likely to be limited.

That is not the end of the commercial space industry's concerns. While established companies fight each other over a shrinking market, new competitors are entering the fray. The end of the cold war has brought in Russia and China, eager to sell their launch services for hard currency. Japan, too, is nearing the end of the development of a large rocket, the H2, and its electronics companies now supply many of the essential parts of US-built satellites.

The non-commercial space industry is suffering as well, as governments seek to cut spending. Nasa, the US space administration, is in the throes of a re-organisation

triggered by budget cuts. And the European Space Agency has cancelled or postponed several large projects such as the Hermes manned space station. The governments of France and Japan are exceptions with their increased space budgets.

These developments have affected all three parts of the space industry, rocket launchers, satellites and ground equipment.

● In launchers, Europe's French-led Ariane consortium is strengthening its grip on the market. Rivals in the US have slipped further behind in the last year. Confidence in General Dynamics has suffered badly as three of the last eight Atlas launches have failed while McDonnell-Douglas' Delta rocket is smaller than launchers made by Ariane and is being left out in the trend towards larger satellites.

China, too, has been hit by

question marks over who was to blame for the failure of a launch late last year. The giant Russian space industry is being constrained by tight restrictions placed on it by the US government.

And despite the uncertainties facing Russia, China and General Dynamics, Japan will

rely more on the commercial sector.

● In satellites, Hughes Aircraft of California maintains its dominant position, largely against US rivals GE and Loral.

Between them, the US companies have all but overwhelmed the European com-

panies, a joint venture between France's Matra Group and the UK's GEC, rely on domestic or European public sector contracts for scientific research and earth observation projects.

● Ground equipment markets are dominated by Japanese companies such as Mitsubishi, NEC and Toshiba. But they, too, are concerned that space markets are limited.

Mr Hiroshi Kanai, general manager at Mitsubishi Electric's commercial space programs department, says there is pressure in Japan to buy US technology to help reduce the Japanese trade surplus.

The increasing power of telecommunications ground equipment, in parallel with developments in satellites, means that the market will not grow quickly, says NEC, Japan's biggest supplier of antennas.

Despite all these concerns, there are still opportunities for growth for the space indus-

try. One that many have pinned their hopes on is the construction of global mobile telephone communications networks based on satellites.

There are several rival proposals. Motorola, an electronics company that was at the forefront of the spread of conventional cellular telephone networks, has its Iridium scheme. The plan is to launch 66 small satellites to ring the planet and allow mobile telephone users to dial anywhere from almost anywhere.

Similar schemes, using fewer satellites, have been proposed by Loral and Inmarsat, the international mobile telecommunications consortium, and others. If any took off, satellite builders and ground equipment makers should enjoy a stream of orders.

Rocket builders might not fare so well. Since the satellites for the network would be small, the number of organisations able to launch them increases. Several US companies could launch small satellites, perhaps with rockets carried into the upper atmosphere on aircraft. Lockheed, for one, has plans to cut launch prices to as low as \$14m for such satellites - less than a quarter

of typical rates on existing launchers.

Even this might not be enough to match Russia. It can launch several small satellites at a time on converted multiple warhead ballistic missiles.

The threat of such competition from Russia last month led to the US to impose strict limits on the frequency of Russian launches. It also put a floor on the price that Russia could offer.

Critics point out that there is no provision for retaliation against Russia should the deal between the two countries be broken. They argue that a similar agreement with China failed to prevent deep discounting by Beijing.

Such scraps are likely to continue as the space business becomes more cut-throat. The combination of technological and political change has transformed the space industry from one accustomed to relative certainties, with few suppliers and few customers, to one where uncertainty rules. It is, perhaps, no longer a business that can be run by former civil servants and air force chiefs, but one that will have to live by the rough rules of international commerce.

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## AEROSPACE 6

## SINGLE EUROPEAN MARKET

# Freedom, but no bonanza

ALTHOUGH the Single European Market in air transport has now been in place since January 1, its effect to date has been less dramatic than many people both inside and outside the airline industry had hoped.

There have been few "new entrant" airlines and few new routes and services. Most of the activity on fares has been in reductions in a battle for the premium fare business class passengers, rather than the major cuts "across the board" that many passengers had been led to expect.

The "Third Aviation Package," giving effect to the SEM in air transport gave airlines three significant new "freedoms".

● First was the right to set their own fares, subject only to tightly drawn safeguards against unfair or predatory pricing, with the Commission itself having the right to arbitrate in the case of disputes.

● Second was that any airline meeting common safety, nationality and financial fitness criteria would be entitled to an operating licence anywhere in the Community (with

restrictions on charter airlines being swept away) - the so-called "freedom of access".

Member countries could still regulate access to domestic services for their own airlines, but only on a non-discriminatory basis - they could not do so just to protect national flag-carriers. Member-states also retained limited scope for restricting access where congestion or environmental problems could be demonstrated, but again only in a non-discriminatory way.

● Third was the introduction

**European air transport has not been a money-spinner for some time**

of "consecutive cabotage" - the right of an airline from one country to operate limited capacity on onward domestic route sectors in other member countries (ie London to Frankfurt and then on to Berlin).

Full cabotage - the right of any airline to fly anywhere in the Community - becomes

effective only from April 1 1997.

Earlier hopes that all this would amount to a bonanza for airlines and air travellers have foundered so far, with the European airline industry plagued by serious operating difficulties. These have been complicated by the airlines' efforts to achieve cross-border mergers or alliances so as to become larger and stronger players in the international aviation arena.

One of the most difficult problems has been the persistence of the economic recession, which has savaged airline balance sheets - overall worldwide industry losses over the three years 1990-1992 are estimated at over \$10bn, and will be further increased by end-93. A substantial proportion of those losses has been incurred in Europe.

The result has been a paucity of new entrants to the industry. One has been Air Russia, in which BA has a 31 per cent stake, along with Aeroflot and other Russian aviation interests holding the other 69 per cent. Formally created last year, Air Russia is

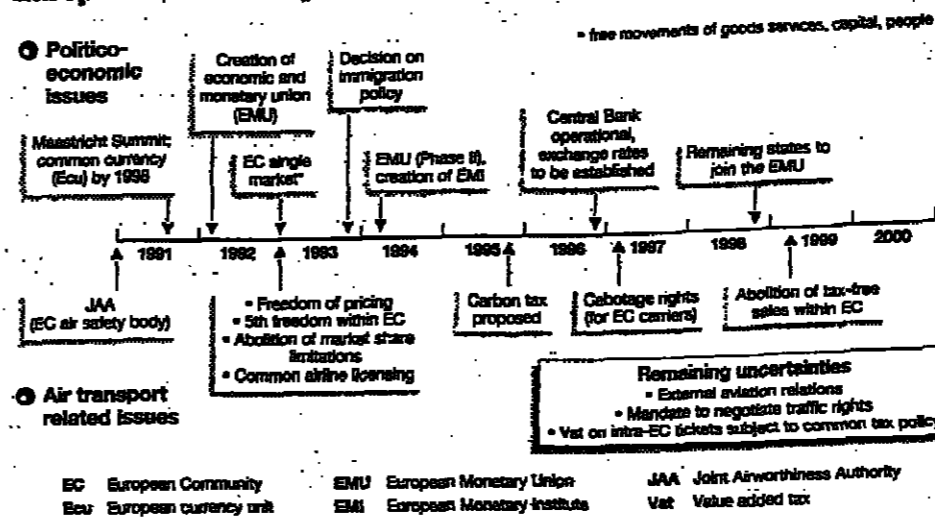
expected to start services to Europe next year at the latest.

But the emphasis has been on the introduction of new routes by existing airlines (and even those have been comparatively limited), or increasing frequencies on existing services. Some routes have even been axed - for example, some European scheduled operations by Dan-Air were eliminated when British Airways acquired that airline last autumn.

BA's German venture, Deutsche BA (formerly Delta Air), in which BA has a 49 per cent share, has introduced several new routes, including Berlin to Moscow, Munich to Ankara, Stuttgart to Venice and Munich to Dresden, while the French-based TAT, in which BA has a 49 per cent stake (with an option on the other 50.1 per cent), has also launched new services.

By far the most active development has been in adding frequencies to existing routes to meet traffic growth. That occurs where the airlines concerned have either already been in possession of the necessary "slots" - take-off times - or have been able to gain

## European Community timetable



additional ones, often by juggling schedules to enable them to transfer less busy services to off-peak periods, thus releasing precious peak-time slots for more profitable operations.

Apart from the economic climate, the slots problem is probably now the most serious constraint on the development of European air transport. Increasing traffic, the lack of adequate ground infrastructure (not only runways but also terminals), and the need for extensive improvements in air traffic control throughout Europe (because of not only past inadequate investment

but also lack of harmonisation and integration of facilities throughout Europe) are all part of the problem.

Efforts by the EC itself to solve the problem by preferential treatment for new entrants, stricter rules to deal with airlines failing to use allocated slots, and introducing more scheduling committees to control slot distribution at major airports, can be only temporary palliatives. Until increased infrastructural investment results in more runways, more terminals and fully harmonised and integrated air traffic control, the

slots problem is likely to remain.

The most evident effect of the SEM so far has been in the fares arena. But although Lufthansa cut fares early in the new year, and was followed by other airlines, in recent weeks the activity has been focused more on airlines' efforts to generate higher-yielding business class traffic, leading to a "class war" throughout Europe, with Aer Lingus, Air France, British Midland and KLM among those involved, while other carriers have introduced reduced-rate season tickets, or improved the quality of cabin service.

All this, however, has stemmed more from a desire to win back the many business travellers (and their employers), who in a recessionary economic climate were rebelling against the high costs of business class travel in Europe and trading down to economy class, than from a genuine desire on the part of the airlines to use the SEM fares freedom to generate overall traffic growth.

European air transport has not been a money-spinner for some time. BA's 1991-92 annual report showed that Europe (including the UK) generated turnover of over £3.2bn (£911m of it from continental Europe), but produced an operating surplus of only £20m, the airline's strong profits in that year coming from other parts of the world. Many other airlines are in a comparable, if not a worse, position.

This indicates that significant cuts in European economy fares will do nothing for airline balance sheets, and will only be sustainable if accompanied by rigorous cost-cutting.

It remains to be seen just how many EC airlines will be in a fit financial state by April 1 1997 to take advantage of the totally liberalised European air transport market that then becomes effective.

Michael Donne

Michael Donne reports on a sector growing faster than the trunk airlines

## Lack of 'slots' hits the regionals

OVER RECENT years, Europe has developed an exceptionally large and diverse regional aircraft manufacturing industry.

But recently it has been suffering from a shortfall in new orders as the economic recession has bitten into airlines' balance sheets, resulting in severely curtailed aircraft re-equipment programmes.

In turn, manufacturers have been obliged to reduce aircraft production rates and labour forces to survive. One consequence has been a renewed interest in the possibilities of new strategic alliances, if not outright mergers. Some have already occurred, and in the near future there may be further significant realignments in the industry's overall structure.

The European regional aircraft industry supplies virtually every regional airline need, from small 10-seat twin turbo-prop airliners to 100-plus seat twin-jet aircraft.

Despite the recession, there is no lack of innovation, and many of the companies involved are looking ahead with new ideas for product improvements or entirely new aircraft models.

Few people doubt that better

times will eventually emerge. Estimates for world traffic growth through to the early years of the next century are encouraging - the International Air Transport Association foresees European air passenger traffic rising from the 1990 level of 394m to 501m by 1995, 653m by the year 2000, 821m by 2005 and to just over 1bn by 2010.

Though much of that traffic will continue to be handled by the trunk-line carriers, especially on direct inter-city routes, the prospects for regional operations are excellent. For underneath the trunk-line routes is a vast network of complementary "concurrent and feeder" operations linking hundreds of smaller towns and cities with each other as well as with the major "hub" airports in capital cities.

Such operations are essentially short-haul. The average sector distance in western Europe is close to 400 kilometres or about 250 miles, but many regional flights are for much shorter distances.

They are performed mostly by small turbo-propeller powered airliners, which means that they are quieter, and therefore more

environmentally and neighbourhood friendly, capable of using smaller airfields as well as the big hub airports. The regionals thus provide a significant social as well as economic role in worldwide commercial aviation.

As a result, regional airline traffic in western Europe has been rising faster than that of the main trunk airlines in recent months. The European Regional Airlines Association's members registered average growth in 1992 of 16 per cent over 1991, against about 5 to 6 per cent for the major trunks.

This trend seems likely to continue, as recovery from the recession strengthens, and the effects of the EC's "third aviation package" of liberalisation measures, including freedom of market entry and access to new routes, takes full effect (although

unlimited "cabotage" - the ability to operate unfettered services in other countries - will not become effective until April 1 1997).

However, like the larger airlines, the regional sector has its problems. These include shortage of "slots" (take-off times) at many big airports, which makes the introduction of new routes and services more difficult, and congestion in the air, which leads to delays for all operators.

Such constraints prevent the regionals from fulfilling their ambitions of expanding faster in the past, and thus also serve to curb their requirements for new aircraft.

Nevertheless, though worldwide orders for twin turbo-prop airliners, still the backbone of the world's regional fleets, fell away sharply in 1992, it has been

estimated that demand to the end of the decade will average 200 to 250 aircraft a year, with the small twin-jets, such as the Canadair 60-plus seat Regional Jet and the new Fokker 70 of up to 75 seats, averaging about 50 a year. Through to 2010, the world market is estimated at several thousand aircraft, worth around \$80bn.

Most deliveries seem likely to go to the US and western Europe, where regional airline development is already extensive, but demand for regional aircraft elsewhere is also likely to be strong, especially in south-east Asia where overall traffic growth is likely to be faster than anywhere else.

In all, worldwide from north America and western and eastern Europe to Brazil, China, Indonesia, Israel, Russia and Taiwan, there are more than 30 manufacturers

of all sizes engaged in struggles for shares of this extraordinarily large and diverse market.

Clearly, not all of these types are likely to make money in the years ahead, despite the big demand that is expected to emerge. Rationalisation of the industry is inevitable, to reduce industrial overcapacity, and achieve higher production rates and better financial results.

This has already begun. In north America, de Havilland of Canada has been acquired by Bombardier Group (which also includes Learjet of the US, Canadair and Short Brothers of Belfast). In western Europe, Aerospaciale of France and Alenia of Italy led the way some time ago with their alliance through Avions de Transport Regional.

This has now been followed with

both the British Aerospace alliance with Taiwan on regional jet manufacture, and that between Fokker of the Netherlands and Deutsche Aerospace of Germany, whereby Dasa took a 51 per cent stake in Fokker.

Many see the Fokker move as a major step towards the inevitable restructuring of Europe's regional aircraft manufacturing industry. Since Dasa already includes Dornier, the Fokker deal gives the new group a significant stake in the market with a wide range of types and potential for further developments - a new Fokker/Dasa 130-seater jet airliner is under discussion.

Over recent months, virtually everybody has been talking to everybody else about collaboration in some form or another. It has even been suggested that there is scope in western Europe for setting up a new international consortium of the Airbus type, devoted exclusively to meeting the world's regional aircraft requirements.

It remains to be seen whether such a grandiose plan ever sees the light of day.

Environmental factors now loom large, reports Michael Donne

## Airport expansion takes off to cope with traffic growth

NEARLY ALL airports are undergoing some form of modernisation and expansion to enable them to cope with the anticipated growth in passenger and cargo traffic over the rest of this decade.

The Gulf War in 1991 severely depressed passenger traffic. The International Civil Aviation Organisation's statistics showed 1991 scheduled (domestic and international) passenger numbers down 3 per cent from 1.16bn in 1990 to 1.13bn.

The subsequent recovery, albeit slowed by the recession, has been steady. In 1992, airlines carried 1.17bn passengers. The ICAO scheduled passenger forecast is for average annual growth up to 2001 of 5 per cent a year worldwide, with total passenger numbers reaching 1.8bn and freight 29m tonnes a year by that year.

In Europe, that forecast means that the 1990s passenger total of 394m will reach 653m by the year 2000 and more than 1bn by 2010, even allowing for competition from the Channel Tunnel which is due to enter service in 1994.

The tunnel may siphon off several million passengers a year from direct air services between the south-east of England and the near-Continent (Paris in particular).

However, there will be less diversion from air to rail services the further into western Europe or to the north and west UK that intra-European passengers wish to travel.

Airport authorities are thus obliged to think now about how they will cope with that anticipated traffic growth. They know it can take many years for airport expansion projects to move from conception to operational status.

This is not only because such projects are among the biggest - and most expensive - individual civil engineering tasks, but also because increasingly their design and development are governed by environmental factors which did not affect airport developments in the early commercial aviation era.

In the UK, the average time for an airport development to pass through all its planning, design, and construction phases is about 10 years. In

some parts of Europe, it can take much longer - it took 30 years of political, financial and environmental wrangling before the Franz-Joseph Strauss airport at Munich emerged last year.

Overall, it is estimated by the ICAO that between now and 2010, as much as \$350bn will have to be spent worldwide on airport projects to meet traffic growth.

That figure represents construction costs alone - terminals, buildings, runways, aprons, and immediate direct access roads. It does not include fitting out for full operational status - radars, landing systems, furniture, internal decoration, and equipment

**The projected Terminal Five at Heathrow, London, is likely to cost £200m to £300m**

costs such as fire equipment and information systems.

Nor does it include ancillary costs that may be required, such as external road and rail links or external urban infrastructure costs to cover such supplies as gas, water, electricity, and aircraft fuel.

If these costs are included, the total world airport development bill for the next 15 to 20 years could run closer to \$400bn.

The figure may seem high but becomes more understandable when one considers that the projected Terminal Five at Heathrow, London, is likely to cost £200m to £300m. It will cater for up to 30m passengers a year, bringing Heathrow's total to 80m passengers (year). The first phase of the new Terminal Two at Manchester, which opened earlier this year, has cost £265m. It will raise capacity from 12m to 18m passengers - a second phase will lift it to about 24m.

A new terminal and associated facilities at Frankfurt is costing about £588m (DM1.5bn). Schiphol is well down the road on a \$2.2m (Fl 3.5bn) expansion programme including a big new passenger terminal.

Kansai Airport on reclaimed land in Osaka Bay, Japan, has cost more than \$500m and Chek Lap Kok off Lantau Island, to replace Hong Kong's saturated Kai Tak, is likely to have cost even more when completed by 1997 with further outlays required for road links with the mainland.

The latter developments - for offshore airports - illustrate what may become a trend in the light of increasing pressures on land and environmental constraints on noise and pollutant emissions, especially in congested areas, such as western Europe and south-east Asia.

Only a few places in Europe have room for new runways. Paris Charles de Gaulle already has two and is destined to have a third by 1997, with additional terminals now available and more planned, to enable the airport to handle 80m passengers a year by the end of this decade.

Space is available for another two runways on the Roissy site. Collectively, this makes Paris the biggest European rival to Heathrow for international air passenger and cargo traffic.

Elsewhere in Europe, lack of space dictates that the expansion of facilities in anticipation of traffic growth is largely being met by extensions to terminals or the construction of new ones within existing airport boundaries.

BAA, the former British Airports Authority, is planning Terminal Five at Heathrow to fight competition from nearby continental airports such as Paris, Amsterdam and Frankfurt, and thus preserve London's pre-eminent position in European commercial aviation. The additional capacity will be achieved without additional runways. This will mean greater use of existing and new wide-bodied aircraft and possibly, within the next few years, 600-seat aircraft.

The increase is within the current runway capacity at Heathrow, with no growth anticipated in night flights or the maximum hourly rate of movements.

Many argue that this expansion at Heathrow is unacceptable, and that consideration should be given to alternative

solutions before any government decision on Terminal Five is taken in 1997 after a public planning inquiry which is expected to start later this year.

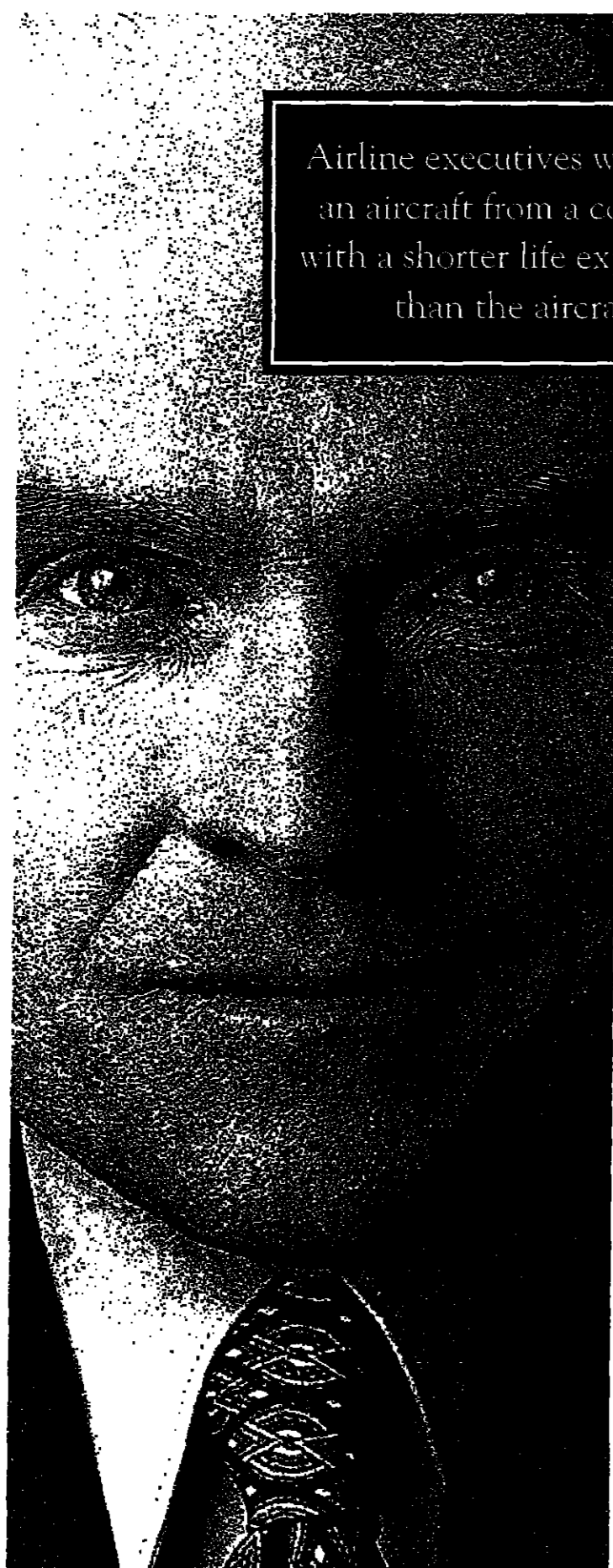
One alternative is the private-venture Marinair plan for an offshore two-runway airport on an artificial island in shallow water in the Thames Estuary near Sheerness, with passengers being conveyed by high-speed rail link from a main terminal at Tilbury on the north side of the Thames. Marinair, although imaginative, is not without precedent - the UK planned an offshore airport at Maplin off Essex in the early 1970s, but abandoned it at the time of the first oil crisis

**One alternative is an offshore two-runway airport in the Thames Estuary near Sheerness**

In 1974, The Marinair plan has been submitted to the government's special airports study group. Rucates Runway Capacity in the South-East.

The project has begun to win considerable support, especially from environmental groups around Heathrow, and much is likely to be heard about it at the planning inquiry. Even so, its promoters know they will have to work hard to win its acceptance over the Terminal Five concept, which is being pressed strongly not only by BAA but also British Airways and other airlines using Heathrow.

Whatever happens about Terminal Five, it is clear that the state of airport improvements and developments will gather pace through the rest of this decade. Indeed, a continuously rolling programme of expansion is likely to emerge to meet the inexorable growth in passenger and cargo traffic. Even if offshore airports are currently the least favoured option for new developments in the crowded European environment, they may be more seriously considered early in the next century when planners will have to prepare for traffic growth beyond 2025.



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**arts Michael Donne**

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## ■ FRANCE

## Vista of freedom

THE BALLADUR government has opened a new vista for France's aerospace industry by including Aérospatiale, the country's leading aircraft and missile maker, and Snecma, the aero-engine manufacturer, as well as Thomson, the electronics group, in its list of state companies to be sold off.

Pressing though the government's need is for cash, the aerospace industry is most unlikely to field the first candidates for privatisation. The losses of Aérospatiale and Snecma deepened last year, while Thomson's group profits were sharply down.

But the privatisation legislation carries no time limit, and once it is passed, the government says, the companies concerned will have more freedom to forge new industrial partnerships even before they reach the stock market.

There is, of course, no question of these aerospace companies swimming right out of the orbit of the French state, which will retain an effective form of control through the defence budget and "launch aid" for civil aircraft. The government has not specified in which companies it will take "a golden share" allowing it to block takeover bids, but it is more than likely that this mechanism will be used in the aerospace/defence sectors.

Faced in 1992 with its first contraction of business in 30 years, aerospace companies have already been trying to strike new alliances both inside and outside France as a way of stemming money and job losses.

Aérospatiale's joint Euro-copter company venture with

Deutsche Aerospace (Dasa) got off to a bad start last year, with sales falling 12 per cent and 500 employees being laid off. But it has been talking about rationalisation in missile-making to both Matra and Thomson, though the latter has decided to link forces with Shorts, the Canadian-owned Belfast firm, in making very short range ground to air missiles.

The previous Socialist government has brought Dassault, France's military and business jet maker, into closer partnership with Aérospatiale. But the two companies' product range remains very different. For the long term, Dassault has started talking to British Aerospace about a joint successor aircraft to the Rafale and the European Fighter Aircraft which the two companies are building separately. In parallel, Snecma, which has made the Rafale engine by itself, is discussing co-operation with Rolls-Royce, a diversification from the French company's long-time partnership with General Electric of the US on civil engines.

All this strategic manoeuvring is taking place in a business trough which Mr Henri Martre, former head of Aérospatiale and current president of Gifas, the French aerospace association, does not believe will end before 1995. Gifas reported that total turnover last year fell by 1.5 per cent to FF101.4bn, while employment in the industry dropped again - despite substantial short-time working - to 111,900.

The 1.8 per cent decline in civil sales was sharper and

less expected than the smaller 1.2 per cent drop in military sales, which shows signs of bottoming out. The general problems of the airline industry, and the particular plight of Air France which lost some FF3.2bn last year, were the root cause. Aérospatiale and its three Airbus partners kept their second place (31 per cent) in the world market for airliners of more than 100 seats. But the pleasure of seeing Airbus orders rise from 101 in 1991 to 136 in 1992 was alloyed by the fact that last year also saw previous orders for 95 Airbus cancelled. The Franco-Italian ATR consortium making regional haul aircraft also had a disappointing year, while Dassault's civil business is essentially marking time until its Falcon 2000 range comes on stream.

France's aerospace industry knows it can expect little joy from the French defence ministry, whose equipment budget has declined by 9 per cent over the past two years and is likely to bear the brunt of further austerity cuts by the Balladur government. But military exports bounced back last year with a 4 per cent rise, while orders increased by 21 per cent, compensating for the 30 per cent decline in 1991. This was mainly thanks to a large order from Taiwan for 60 Mirages 2000-5s and some 1,500 missiles. A number of avionics and electronics firms will feel the benefit of this order, but most will go to Dassault and Matra, makers of the Mirages and most of the missiles concerned.

David Buchan

## ■ THE US

## Merger wave to continue

THE US aerospace industry is in the throes of a wrenching contraction as it struggles with the twin problems of a downturn in the civil aviation business and a shrinking US military budget.

The result has been tens of thousands of job losses across the sector and, on the military side of the industry, a merger wave which still has a considerable way to run.

The civil aerospace business should eventually recover, as the US and world economies shrug off their current weakness, but the end of the Cold War means the military contractors face a long, one-way decline in demand.

US government spending on all types of military supplies is estimated to have dropped from a peak of \$206bn in 1987 to \$161bn last year and analysts expect it to fall to around \$130bn by 1997.

In previous US downturns, contractors have been able to ameliorate their difficulties by building up overseas sales, but the growth potential far from matches the scale of domestic cutbacks.

North American companies divide equally on whether military exports will increase or decrease over the next four years, according to a new survey, conducted by consultants Ernst & Young, of global defence industry attitudes towards the challenges facing the sector.

This backdrop poses tricky strategic decisions for military contractors, who are being pushed by market forces either to acquire their rivals, and thus gain a leading position in a particular sub-sector of the

market, or to sell out to companies which can achieve this critical mass. Those which delay too long risk being left out in the cold, facing a gradual slide to insignificance.

An article late last year in the Harvard Business Review by Mr Jerrold Lundquist, of management consultants McKinsey, argued that "today a dozen defence companies compete in six or more market segments. Tomorrow they will compete in two or three."

"Several large companies and scores of small ones will fold altogether. In 1992 there are 13 companies in the space segment and 16 vie for a slice of the avionics pie. By 1997 there will be only five or six in each group."

The Ernst & Young study found almost all North American companies expect significantly more consolidation, with some 60 per cent expecting a large number of sub-contractors to leave the defence business.

The industry's most aggressive deal-maker so far has been General Dynamics, until recently the second largest defence contractor, which has just sold its tactical military aircraft business to Lockheed for \$1.525bn.

The main product of the General Dynamics division is the F-16 fighter, output of which is now well past its 1980s peak, but it and Lockheed were already partners (along with Boeing) in the development of the F-22, a new generation of radar-judging fighters.

The Lockheed deal was only the latest in a series of disposals by General Dynamics

which also included Cessna, the light aircraft manufacturer (sold to Textron) and its missile operations (which went to Hughes Aircraft).

Nevertheless, the latest deal took analysts by surprise because Mr William Anders, the General Dynamics chairman, had repeatedly insisted that tactical military aircraft was a core business he wanted to hang on to.

Yet he had also complained that his efforts to buy businesses had been frustrated by the reluctance of rival contractors to sell off sub-critical operations.

**Military contractors are being pushed by market forces either to acquire their rivals or to sell out**

operations.

The largest single defence deal to date was struck last November, when Martin Marietta - a leading manufacturer of space launch vehicles, such as the Titan family of rockets, as well as military electronics, information systems and missiles - acquired General Electric's aerospace business for \$3.05bn.

The GE business supplies radar, sonar avionics and armaments systems, missiles system components and commercial satellites. The deal positioned Martin Marietta to become the leading US aerospace electronics supplier.

However, buying a rival is only the first stage in building a successful business. The two sides have to be smoothly integrated. Martin Marietta, for example, recently formed six new sectors to align similar businesses and warned that it expected lay-offs as it continued the consolidation process.

McDonnell Douglas, the largest US defence contractor of all, faces big problems in civil aircraft, where it has lost its position as the second-largest manufacturer in the world to Europe's Airbus Industrie, and on the military side of its business.

There is a large question mark hanging over the fate of the controversial C-17 transport it has been developing for the Pentagon and which is way behind schedule and far over budget. In a letter to the company in early May, the Pentagon warned that unless the company takes "immediate and aggressive action" to improve its management of the programme, the jet might be cancelled. Some congressmen would like to see the programme scaled back to only half the 120 aircraft originally envisaged at a cost of up to \$40bn, while others would be happy to kill it.

Apart from the C-17 and a bitter dispute with the government over who should pay for the cancelled A-12 programme, McDonnell's large military aircraft business, which includes the F-15 and the F/A-18 fight-

ers, is solidly profitable and last year won some important new contracts, including an order from Saudi Arabia for 72 F-15s.

However, the commercial business faces an extremely uncertain future. It is modestly profitable, after big cuts in its workforce, but it has not won any big new orders in almost two years and its product range - the narrow-bodied MD-80 and the wide-bodied MD-11 - is more limited than that of rivals Boeing and Airbus.

It plans to build a new super-jumbo jet, the MD-12, but is so financially stretched it cannot afford to do so alone. Last year it tried to get partners among Asian nations to invest equity in the commercial aircraft business in return for part of the MD-12 manufacturing operations.

So far, these efforts have been unsuccessful and the project has been put on hold until conditions in the airline industry pick up. Yet without the MD-12, many analysts question its long-term ability to survive in the commercial business. Boeing is also suffering from the recession, which is forcing it to cut 25,000 jobs, or a fifth of its employees, between the start of this year and the middle of next, while production on all its jetliners is being cut by an average of 35 per cent by mid-1994.

For all that, a battered-down Boeing, with a share of around 60 per cent of the commercial aircraft market and a firm backlog worth around \$50bn, should be well placed to take advantage of the next cyclical market upturn.

Martin Dickson

## ■ THE ASIA PACIFIC

## The engine heats up

THE OFFICE of Mr Donald Schmidt, acting director for the Asia Pacific of the US Federal Aviation Administration looks out over the runways of Changi airport in Singapore.

"The growth of aviation in this part of the world is incredible," he says. "I've been here since 1988 and just by looking out the window, watching the increase in flights, I can tell how fast aviation is moving in this region. It's like an engine heating up."

The statistics support Mr Schmidt. There has been double-digit growth in airline traffic across the Asia Pacific in each of the past 20 years.

The International Air Transport Association forecasts that passenger numbers in the region will double between now and the year 2000. The region will then account for nearly 40 per cent of worldwide passenger traffic and by 2010 that figure will be more than 50 per cent.

Data predicts that passenger traffic in south-east Asia will grow by more than 9 per cent in each of the next three years, compared to annual growth forecasts of 3.9 per cent in Europe and 5 per cent in North America.

As passenger numbers have grown, so the whole focus of the aviation industry has shifted. By the year 2000 Boeing predicts that the Asia Pacific will surpass the US as the largest market for aircraft deliveries.

Countries buying aircraft have been demanding more technology transfer and a greater share of aerospace manufacturing. The need for these "offset" arrangements means aircraft manufacturers are basing increasing amounts of their component manufacturing in the region, both on the civil and military sides of the industry.

But this is not the only factor behind the growth of the Asia Pacific aerospace industry: in many cases, particularly related to aircraft maintenance, the Asia Pacific is a better financial proposition. Last year United Airlines of the US purchased seven 747s from Qantas, the Australian carrier.

United had the aircraft modified and serviced in Singapore rather than back in the US.

"Singapore has the facilities, a very competitive cost structure and a good reputation for doing the work on time," says Mr Terry Waldo, United manager in Singapore.

Some manufacturers have sought to form strategic alliances - such as the recent joint venture to manufacture regional jets announced between British Aerospace and the aerospace industry in Taiwan. Almost every country in the region has some form of aerospace industry: Alroed in Malaysia carries out work on US military aircraft and a

design and manufacture a new light helicopter, to the building of cabin service carts.

Dr Otis Chen is managing director of Turbine Overhaul Services, a joint venture between state-owned Singapore Technologies and United Technologies/Pratt & Whitney. TOS employs 300 people repairing and upgrading aircraft jet engine turbine blades and vanes.

"This industry is a truly global one," says Dr Chen. "We're like a garage, with components coming in from anywhere in the world. It's evolving fast and you have to constantly upgrade to accommodate new technologies."

"At our end of the business we don't feel the draught from the troubles of the airline industry. We're working at full pitch and contemplating expanding. People are still flying, engines still have to be overhauled."

Tax incentives to high tech industries make Singapore attractive. The government provides a wide range of back-up services. But even in a region which is experiencing flyaway growth, the aerospace industry is highly competitive. Singapore has to work hard to maintain its position against other fast-developing regional centres where labour costs are often considerably lower. There are problems of labour shortages and an insufficient supply of highly trained engineers.

China, viewed as a potential vast aerospace market, is a distance from Singapore. Significantly, Hong Kong Aircraft Engineering recently announced plans to move certain heavy overhaul facilities to China, both to tap into a low-cost labour market and to develop its China business.

"The aerospace industry in this region is on a very steep growth curve," says Mr Schmidt of the FAA. "If Asia Pacific governments can standardise their aerospace regulations and co-ordinate their traffic control systems, it will keep on expanding. There is enormous potential out there."

Kieran Cooke



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■ CHINA

## Leapfrog in time

AT A time when the airline industry in the west faces a slump and aircraft orders are down, China's aviation market is booming and shows no signs of easing up. "Its industry is growing much more than the US aviation business in the 1960s and 1970s, when the maximum growth rate was 15 to 18 per cent annually," says a western businessman. "China's growth rate is more than double that of the US."

China's passenger traffic volume rose more than 30 per cent last year over 1991, and it has averaged an annual 25 per cent increase since 1984. Domestic flights are consistently more than 80 per cent full.

Some business forecasts estimate that China will need to acquire 50 to 60 aircraft a year for the next three years to begin to meet demand. In a period of tremendous economic reform, China is modernising and restructuring its aviation industry. At the same time, to cope with the immense growth in passenger and cargo traffic, it is acquiring a wide variety of planes and equipment using an array of financing techniques, from leasing to barter deals to outright purchases.

Three of the country's state-owned airlines have leased at least 16 Ilyushin 86s

from the former Soviet republics. Under the terms of what is called a "wet lease", the foreign carrier supplies the aircraft, crews, flight attendants and technical support staff. The Russians are also bartering or selling Tupolev 154s. Though these aircraft require more frequent repairs and use more fuel, they are cheaper than their western counterparts.

China has also recently purchased 12 Airbus from Germany, with options for 13 more in a \$1bn contract.

Boeing is a major player in the China market. It is expected to deliver a total of 47 aircraft this year. The company signed an \$800m order in the spring to sell 20 737s and one 757 to China. It is also negotiating to sell widebody 767 jets, which can carry 250 passengers, to China Southwest, and an advanced new 777 plane that can seat 390 people, which would go to Air China.

China has acquired nearly 200 Boeing since Mr Richard Nixon flew in one to Beijing in 1973 to begin the process of Sino-American rapprochement.

Other foreign companies are also negotiating to manufacture aircraft in China, but western sources said these discussions are on hold as the Chinese

industry undergoes a reorganisation. Saab-Scania has been talking with the Chinese about producing a turbo-prop commuter. Last year, Saab sold some 340s to China Southern. The French and Italians have also been competing to offer a similar 50-seater model, called an ATR, to the Chinese. Fokker is believed to be proposing its version of the turbo-prop.

Since April, the Ministry of Aerospace Industry has been dismembered. The aerospace functions are now handled by the China Aerospace Industrial Corporation, and the aviation and manufacturing arms are the responsibilities of the China Aviation Industrial Corporation.

Although both corporations are still government-owned, this change brings more decentralisation and a greater emphasis on responding to market demand.

With this restructuring, it is still

unclear how much clout the aviation corporation has and to what extent it is able to compel Chinese airlines to buy domestically made jets. Many airlines prefer to purchase foreign aircraft, believing they get a cheaper and better quality product.

At the same time the ministry has been dismantled, the Civil Aviation Administration of China has also been broken up. CAAC now functions primarily as a regulatory agency, much like the Federal Aviation Administration in the US. It no longer retains control of the airports, though it still keeps authority over some aircraft purchase decisions.

In the face of the country's rapid economic reform, the number of airlines has mushroomed. At last count, China had 25 to 30 airlines. They can be organised into three groups:

- The first category consists of six major

state-owned regional carriers: Air China, China Eastern, China Northern, China Southern, China Southwestern, and China Northwestern.

These airlines can float bonds and shares, sign joint ventures, and create subsidiaries, but still need central government approval for aircraft purchases.

- The second group includes specialised airlines, such as Yunnan Air, which CAAC controls directly. Despite provincial and local government pressure to ignore Beijing's directives, CAAC retains authority over these airlines so as to allocate routes.
- The third category of carriers includes all of those owned by municipalities, provinces, and other shareholders. The largest of these airlines is Shanghai Air, which has three Boeings now and will have 13 of them by 2000. Xiamen Air in Fujian province is partially owned by China Southern, which is based in Canton.

With the decentralisation of the industry and the economic boom, a host of new problems has arisen.

Safety issues have often taken a back seat to expansion. China's safety record has been erratic. Last year, four publicly reported accidents claimed 276 lives. And

in April this year, turbulence rocked a China Eastern flight to Los Angeles, killing two people and injuring more than 150.

China also faces a severe pilot shortage. Good pilots have left the major state airlines for smaller, local ones and much higher pay. Many of the country's airports have antiquated ground facilities, few radar systems, or none at all.

To improve its safety record, CAAC recently announced a crackdown. New airlines cannot be created unless they meet minimum capital requirements, have qualified pilots and adequate ground control equipment.

New regulations also prohibit pilots from flying overtime and from taking off or landing in bad weather. Safety inspections and spot checks are being stepped up. CAAC has also banned unauthorised pilot and technical personnel recruitment from one airline to another in the country.

"All of this will take time," a western business executive says. "China is trying to leapfrog to the latest available technology without going through the steps western countries have taken."

Lynne Curry

■ TAIWAN

## A kid on the block

AFTER two years of courting international aerospace companies with a cash pile in inverse proportion to its knowledge, Taiwan Aerospace Company has finally arranged a deal which will give Taiwan an embryo civil aviation industry by the end of 1994, writes Simon Davies.

But the company has a long way to go before it can prove that money can buy anything. Mr Tsai Fen-doe, a former legislator and engineer of Taiwan's push into aerospace, admits: "Taiwan cannot say that in 10 to 20 years it will be a major competitor in the world aerospace industry. We would be laughed at."

Taiwan's vehicle industry provides an unfortunate precedent: it remains over-protected and uncompetitive. It has failed even to develop the capability for manufacturing engines. TAC also derives from a government decision that it should evolve from its low-cost manufacturing roots. The view is that Taiwan should develop capital and technology-intensive industries.

The aerospace push is being made via a company only 29 per cent owned by the government, to give it a more independent and competitive edge. Local companies were persuaded to put up the rest of TAC's T\$1.2bn (\$200m) start-up capital.

The first step was big ideas. As one aerospace expert claims: "They were sitting on top of a pile of money. But they hadn't manufactured one single part of a plane and they were under a lot of pressure to find a deal."

The first step was McDonnell Douglas, where Taiwan Aerospace proposed to invest \$2bn to develop a new generation of

super-jumbo jets. But critics argued the world was not ready for this. Legislators succeeded in blocking the deal and forcing out Mr David Huang, the TAC chairman.

Mr Denny Ko, TAC's president, says there has since been a change in focus. "I have to strike a delicate balance between medium-term profitability and long-term investment. I have to walk a fine line." He argues that even in the best-case scenario, the McDonnell deal would not have reaped profits for more than a decade.

The \$250m purchase of 50 per cent of British Aerospace's regional aviation business represents a more practical approach to Taiwan's ambition of an evolving aerospace industry. It appears to balance the strengths of the two partners. Taiwan has an abundance of capital, access to a booming market for short-haul transportation and expertise in aerospace assembly. British Aerospace has a product, but it lacks capital and an active marketplace.

One of the keys to the link-up is the fact that now Taiwan has gained access to foreign jet fighters, it no longer has any need for its Indigenous Defence Fighters, the jets that it developed when Beijing blocked foreign arms sales to Taiwan.

Mr Tsai argues: "You cannot separate the aerospace ambitions from the defence plan. Defence was always Taiwan's priority, but now we have F16s and Mirages, we have to consider how to utilise this excess manpower from defence."

The new RJ (which stands for Regional Jet) range will be manufactured in the Aero Industry Development Centre, taking up slack from the slowdown of the fighters

assembly line. Mr Ko says the Defence Ministry has already agreed to lease out part of this operation for civil production.

The new production base is at the mouth of a potential goldmine of demand. Taiwan will produce its first RJ aircraft only by the end of 1994, by which time Taiwan and China may have agreed on direct flights across the Taiwan straits.

Economists expect that more than 3m Taiwanese will make the short hop across the Taiwan straits to China in the first year of direct flights, creating a market for small jets, such as the RJ. Even without this, Taiwan is in the centre of one of the world's few high growth aviation centres.

Mr Ko claims: "We are still a new kid on the block, and we have to prove ourselves. For the next two years, the industry has problems and we'll take the opportunity to learn. Then people can take us seriously."

They are already doing so. Sir Ralph Robins, Rolls-Royce chairman, recently visited Taiwan to discuss setting up a jet engine manufacturing operation for the development of a twin engine addition to the RJ series, to be called the RJX. TAC has also set up a maintenance joint venture with Singapore Aerospace, and may enter the helicopter industry.

Shareholders are currently being asked to increase TAC's capital base to its target of T\$5.2bn. The government will take up its share, but some backers have been less willing to back the venture.

They have cause for scepticism. There is little precedent in Asia, where economic powerhouses such as Japan and South Korea have failed to develop a civil aviation manufacturing industry, beyond the production of individual components.

Taiwan has progressed beyond that, and Mr Ko is now looking to joint venture partners to produce key components for the RJ. But it will take time and money for this basic assembly line to evolve into a vertically-integrated aerospace industry.

■ HONG KONG

## Plethora of airports

BY THE end of 1997, the delta of Southern China's Pearl River could be the focus of five new international airports. Hong Kong will vie with Macao, Shenzhen, Zhuhai and Guangzhou to lure the hordes of businessmen heading for the world's fastest growing region, writes Simon Davies.

Hong Kong had hoped to establish a monopoly role for itself, but the scope of its ambition is currently proving to be its undoing.

In 1994, Hong Kong's Kai Tak airport, now the fourth busiest in the world, will hit full capacity, at a time of boom for the Asia-Pacific aviation industry.

But the world's most expensive airport project, which was to have been a monument to the success of the British administration in Hong Kong, has instead become a symbol of the uncertainties represented by the colony's post-1997 government.

China is apparently unhappy at the \$21bn price tag on Chek Lap Kok and related infrastructure projects, which compare somewhat unfavourably with Japan's \$10bn Kansai Airport, and the \$1.3bn expansion of Singapore's Changi airport. Without Chinese approval of the financing plan, it would become the world's most expensive white elephant.

The political stand-off has dragged on for a whole year. Surprisingly, millions of tons of mud have been displaced during that time and a vast artificial island has begun to appear, providing a platform for the airport.

The underlying logic is that since the airport was in principle agreed by Britain

and China in 1991, work will carry on where possible, and eventually it will become cheaper to complete than to scrap.

Despite the delays, Mr Hank Townsend, the provisional airport authority's chief executive officer, argues that the June 30 1997 deadline for the opening of the new airport is still achievable. "My concern would be that as we approach this fall [without approval for the financing plan], the mid-June deadline becomes less probable," he said.

It seems impossible that it will open on time — the Chinese could be forgiven for wanting to host the ribbon-cutting ceremony for such a momentous project. But with Chinese officialdom stating that it wants the airport, it appears equally impossible that it will not be completed. More of an issue is the role the airport will have left to play once it does open.

Kai Tak has been a major beneficiary of the booming Chinese economy. Many of the 21m people who flew through the airport in 1992 did so because it is the only realistic means of access to southern China.

This is particularly galling for the Taiwanese. Under government regulations, they can visit China only via a third country. As a result of this, 1.64m Taiwanese visited Hong Kong last year, representing the largest individual source of tourists.

Inevitably, direct links will be set up by 1997, and Hong Kong is likely to forfeit a large chunk of this business, accounting for 23 per cent of all visitors last year. The loss of this business could coincide with the opening of a new Hong Kong

airport with capacity for 35m passengers.

Another factor which will affect passenger demand for Chek Lap Kok is a rapid increase in local competition. In mid-1996, the Portuguese enclave of Macao will finally open its international airport. With a capacity of 2m, it is unlikely to leave a mark on Kai Tak, which processed 22m passengers last year. However, on the other side of the river, Shenzhen has greater ambitions.

It plans to process 3m passengers by the end of 1993 and already has capacity to take 8m, or almost one third of Kai Tak. At the same time, Guangzhou, the provincial capital city, is working on a replacement airport and Macao's neighbouring city of Zhuhai wants to get in on the game.

All this smacks of excess. Yet Mr Townsend argues that over-capacity is not an issue. "If you have the capacity, people will find a way to use it. The rapidly increasing standard of living is creating an enormous middle class. You are tapping a whole new segment of the market that hasn't existed before."

He is not alone in this opinion. Mr John Meredith, senior director of the International Air Transport Association, expects Asia-Pacific average passenger growth of 8.6 per cent between 1990 and 1995, and 7.5 per cent between 1995 and 2000.

"The proposed new airports in south-east Asia will be full by the time they come onstream. Asia-Pacific is set to outstrip the rest of the world in passenger traffic," he argued at a recent conference. IATA estimates the number of flights in the region will double in the next decade.

Hong Kong should play a major part in this boom. It remains the natural service centre for southern China because of its strength in infrastructure and communications. Its future must depend on its ability to provide what China needs, and the airport will be integral to this.

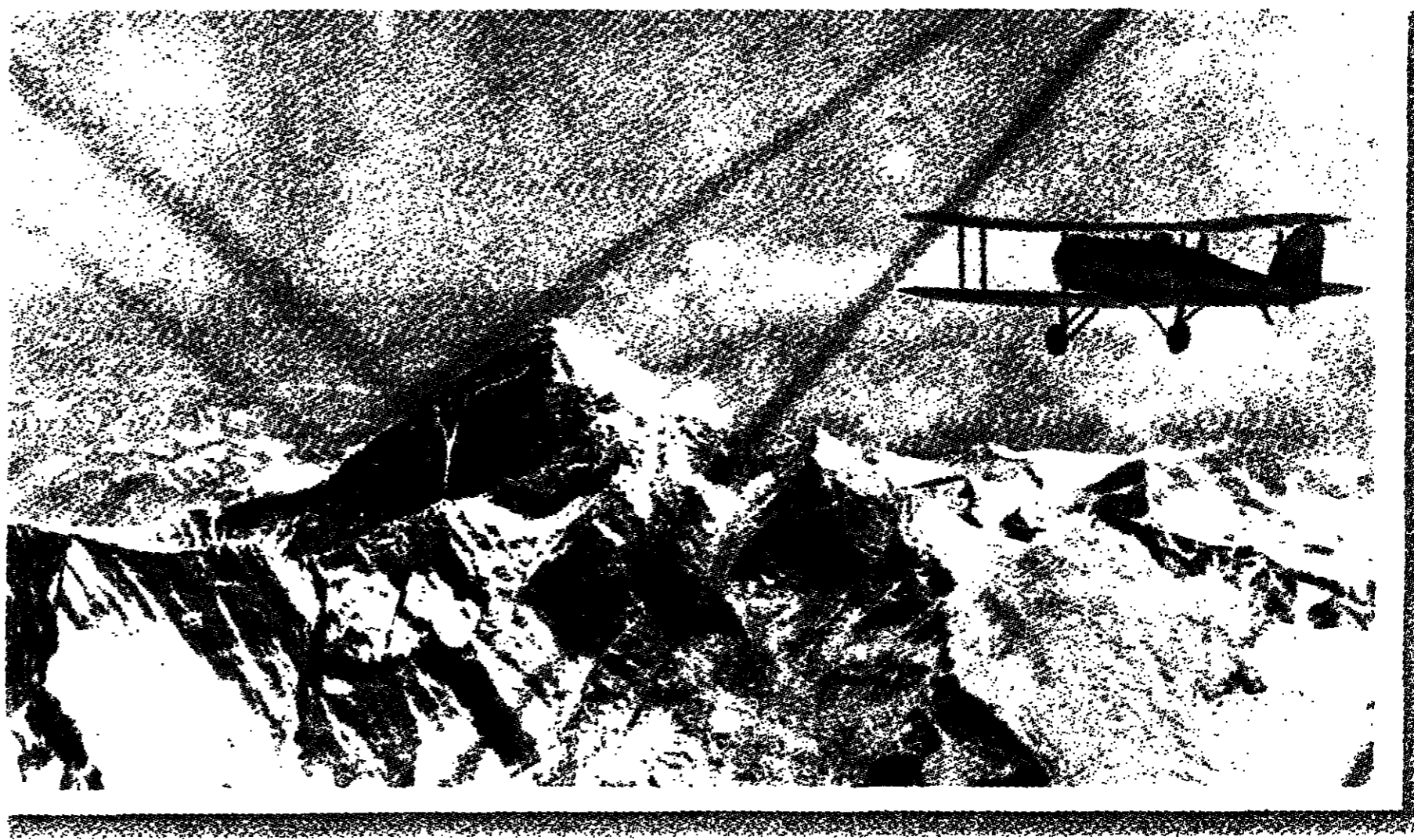
t risk

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Aero-engine manufacturers are restructuring heavily, says Paul Betts

## No let-up for the Big Three

THERE HAS been no let-up for aero-engine manufacturers. "We are undergoing the longest and most damaging recession we've ever suffered," says Sir Ralph Robins, chairman of Rolls-Royce, the UK aero-engine group.

"In some parts of the world, we don't know what kind of airline industry will emerge from this recession which has already taken some large airlines like Pan Am and Eastern out of the game. As for the defence business, it has not gone away for good, but what is clear is that it will be half the size it was," he adds.

The response to the steep business downturn of the three big aero-engine makers - General Electric and Pratt & Whitney in the US and Rolls-Royce in the UK - has followed a common pattern. All three have continued to restructure heavily. GE is cutting a further 4,000 jobs and Pratt another 10,000 jobs in the next 18 months. Rolls-Royce, whose aero-engine workforce has already fallen from 36,500 in 1990 to 29,500 at the end of 1992, is cutting another 5,000 jobs this year.

But while aero-engine makers have had to accelerate restructuring, they have also had to continue investing heavily in the development of new products and technologies to take advantage of the recovery when it finally comes and maintain their

long-term competitive position in perhaps the toughest of all markets in the aerospace industry.

All three are in the throes of costly programmes to develop new large commercial engines to power the new generation of widebody aircraft. GE is investing heavily in the GE90, which reached a thrust level of more than 100,000lb during tests in Ohio this spring. Rolls-Royce is working on the Trent and Pratt on the PW4000 to build ultra-high thrust power plants.

The first application for these new engines will be the Boeing 777 twin engine widebody airliner and the Airbus A330

**Manufacturers earn low margins for new engines and rely on the after-market for spare parts**

widebody twin. Although the initial 777s and A330s will not require anything like 100,000lb of engine thrust (the GE90, for example, will enter into service with its launch customer British Airways in September 1995 at a thrust rating of 78,700 lb), all three manufacturers expect demand for power to grow as twin-engine widebody aircraft become bigger in the future.

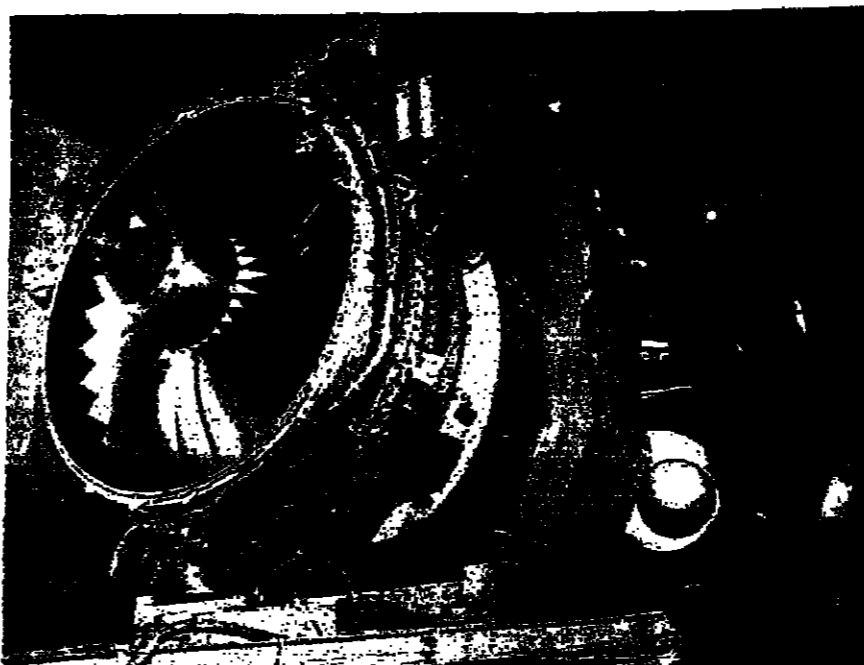
Apart from cut-throat competition to sell

engines - and none has been fiercer than in the new large commercial engine market - the sector has traditionally faced far longer lead times for product development and profit recovery than other parts of the aerospace industry. Lead times have been steadily growing and have now stretched as long as 50 years for new engine programmes.

Rolls-Royce says it takes about 14 years to research and demonstrate a new technology and another 12 years to apply the results to a complete aero-engine product range. But as manufacturers traditionally earn low margins for new engines, they have to rely for their return on investment on the large after-market for spare parts over the 25-year service life of an engine. This matches the current expected life of a modern airliner which, according to Rolls-Royce, is at least 25 years.

Margins for new engines have also been squeezed by the present parlous state of airline finances. All manufacturers have had to increase the financial support that they provide to many of their customers to sustain sales during the industry's current three-year slump.

"We are not only having to give away new engines but we are now having to make deals with airlines on spare parts. That's how tough it is," notes Mr Brian



The development programme for the Rolls-Royce Trent has included testing in the altitude chamber at the Ministry of Defence facility, Pyestock

Rowe, the head of GE's aero-engine operations who is expected to retire later this year.

During recessions, airlines fly less and require fewer spares thus putting pressure on the aero-engine manufacturers' lucrative spare parts business. But an additional problem facing manufacturers in the more profitable after-market sector of their business has been caused by the

steady advance in engine technology. Rolls-Royce says the sharp improvement in modern engine reliability means that it now takes at least five to six years after the sale of a new engine before spare parts income starts to flow.

The huge costs and risks coupled with long lead times of developing new engines has forced manufacturers to rely increasingly on widespread international collabora-

tion ranging from joint technological studies and licensing agreements to risk and revenue sharing partnerships and the setting up of joint engine companies.

Such partnerships have predominated on the civil side of the business which cannot rely to the same extent as military engines on government research and development support. GE and the French state-owned engine manufacturer Snecma have been collaborating for two decades on civil engines with Snecma holding risk-sharing stakes ranging from 10 to 50 per cent in GE civil engine projects.

Pratt has forged a strategic alliance with Motoren und Turbinen Union (MTU), the German engine manufacturer part of Daimler-Benz's Deutsche Aerospace subsidiary. Rolls-Royce has also been increasing its collaborative ventures with Japanese manufacturers taking a 7.5 per cent stake in the Trent. Rolls has also set up a joint company with BMW of Germany to develop engines for business, commuter and regional aircraft.

With development costs and competitive pressures constantly rising, smaller manufacturers are finding it increasingly urgent to forge new relationships or expand existing ones with the larger aero-engine groups. This is likely to lead to more consolidation of smaller companies into the big three.

Some aerospace analysts have even suggested that three big manufacturers are too many for the market to sustain and that one will eventually have to merge with a competitor. Sir Ralph believes the three majors will survive. "But I can't see a place for the smaller players," he adds.

David Fishlock finds Rolls-Royce worried by the level of its R&amp;D support

## The long search for a super fibre

15 per cent today, and is still falling. Use of nickel has peaked at about 45 per cent and can be expected to fall sharply.

Three new types of material are expected to increase their "market share" rapidly. For lower temperatures they are the resin-based composites of the type Rolls tried but failed to introduce with its carbon-fibre fan blade in the 1960s.

For higher temperatures they are the metal matrix composites - metal reinforced with ceramic fibres - that promise to take weight out of rotating parts. And there are the ceramic matrix composites - "the big prize", as Mr Miller sees it. Ceramic matrix composites promise to eliminate the elaborate cooling arrangements now needed for high-temperature rotating metal parts. "But it's extraordinarily difficult," he admits.

Mr Miller confesses he has been guilty of undue optimism about when such materials will be ready to fly. Five years ago the company saw the challenge as a 10-year project, giving it a new engineering material by the end of the century. "It's going to take longer than that."

The core problem is corrosion: how,

when running engines at 1,500 degrees C - the melting point of steel - to prevent the fibrous reinforcement from simply dissolving in its white-hot matrix. The answer is probably a protective coating for the fibre, to create a "super fibre" in terms of high-temperature strength and corrosion resistance. Identifying the combination that will eventually win a licence

As there are no UK suppliers of super fibres, Rolls-Royce has had to join a Eureka research collaboration involving 30 European groups

to fly is going to be a long and costly quest. Mr Miller is betting on coated alumina (aluminium oxide) fibres getting there first.

But a big difficulty is that there are no UK suppliers of super fibres. The volume of business promised by Rolls-Royce is small compared with the scale of investment required, and the lead time to commercial use is long. This problem has driven Rolls-Royce into a Eureka pre-competitive research collaboration involving some 30 European organisations.

The first, four-year phase of this programme, starting this year, aims to identify a suitable coated fibre for service at 1,500 degrees C. Rolls-Royce is contributing about £0.5m, which will be backed pound for pound by the government. The obvious risk for the company - and Britain - is that results will be freely available to a rival aero-engine maker.

nies charging their R&D to the overhead account on contracts - £200m a year.

In France, says Rolls-Royce, the principal state support for civil aero-engine programmes is launch aid for Snecma, GE's state-owned collaborator. Snecma gets reimbursable loans amounting to £240m (1990 prices) over 10 years for the GE 90 programme, a direct competitor to Rolls-Royce's Trent.

In Japan, says Rolls-Royce, MITI has identified aerodynamics as the most important "sunrise" industry of the 21st century. In 1983 the Japanese government launched a R&D programme involving about 170 companies to develop engineering ceramics. R.R. believes this has given Nippon Carbon a commanding position in carbon fibre production and use. Japan began test runs of an industrial gas turbine made of ceramic components in 1990.

Its aim, says Mr Miller, is to develop an "all-composite engine". Its commercial goal is to supply advanced engine component technology, giving this the status of, say, avionics systems in future generations of aircraft. Two other companies - Nippon Chemicals and UBE Chemicals - are

also concentrating on fibre development and manufacture for reinforcing composite materials.

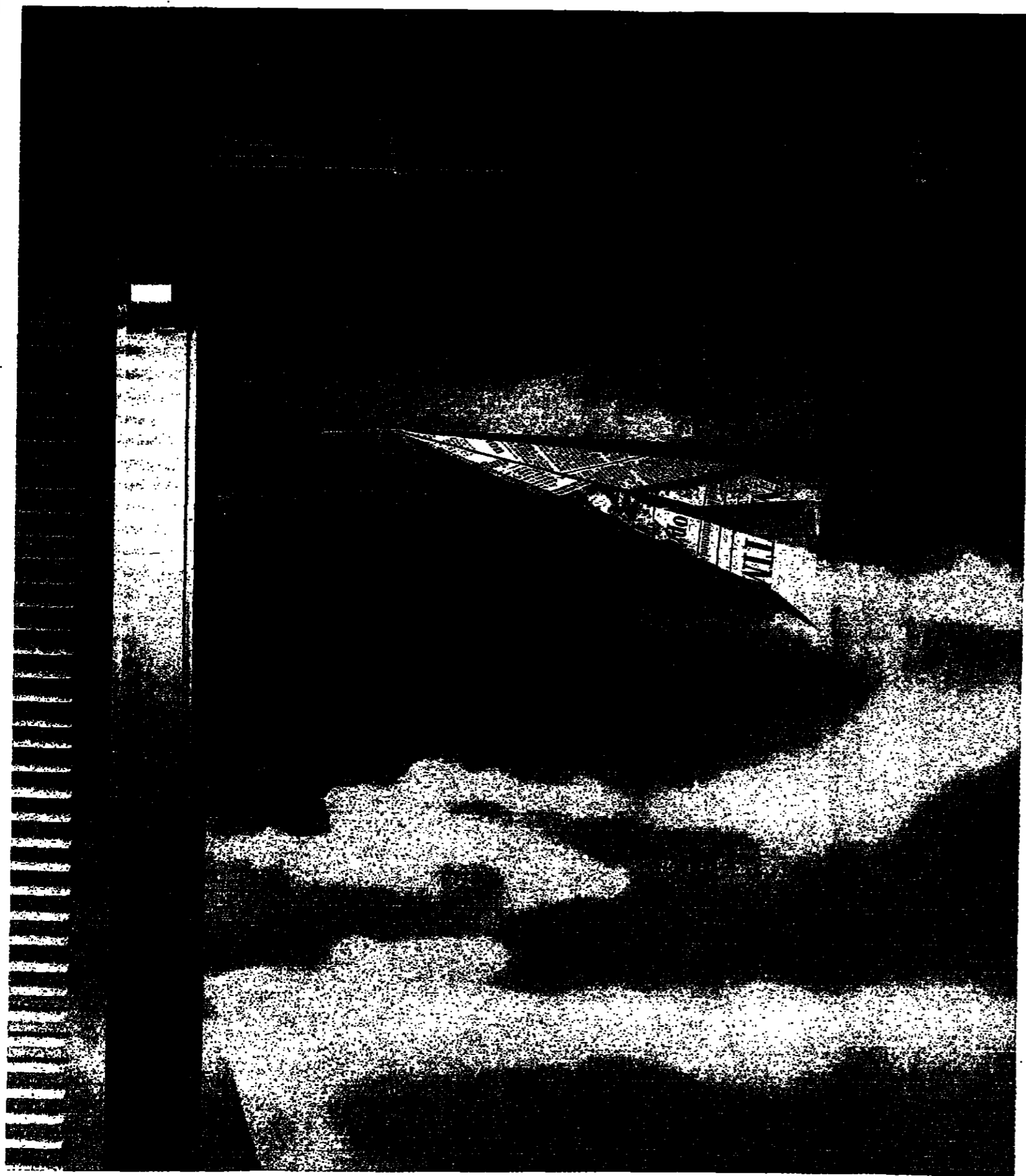
Although Mr Miller acknowledges that the development of high duty composite materials is proving more difficult and expensive than was expected a few years ago, "our belief in the value of composite materials is as strong as ever it was."

"The weight savings are potentially enormous," he asserts. For example, it may be possible to design a composite compressor wheel with integral blades only half the weight of the metal version.

But where once sights were set on such critical parts as turbine blades, less critical components are now being targeted. Rolls-Royce participated in the Eureka programme, but Mr Miller believes that so crucial is advanced aero-engine materials technology that Britain should be prepared to pursue this one alone.

Last year Rolls-Royce proposed a national composite materials R&D programme involving its suppliers and universities, with government support of about £50m a year. The US government, says Mr Miller, spends more - \$150m a year for composite materials R&D.

As Sir Ralph told MPs: "A new family of materials is coming to revolutionise aviation and its first application will be on engines." Unless Rolls-Royce remained at the forefront of composite materials technology the company risked losing out, its chairman warned.



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## ■ THE NETHERLANDS

## Turning point for Fokker

EARLIER this year, Fokker, the Dutch aerospace maker, gave up its independence. However, it gained a rich source of financial support and capital when it agreed to a 51 per cent takeover by Deutsche Aerospace of Germany.

The transaction, approved by the European Commission last month, marks a turning point in Fokker's 74-year history and comes after more than a year of controversy in the Netherlands. The long, tortuous negotiations between Dasa and the Dutch government, which had the power of veto because of its 32 per cent stake in Fokker's share capital, were complicated by emotional and political sensitivities that were inevitably raised by the sale of one of the country's premier industrial establishments to a big German rival.

Speaking just before he signed the final contract in late April, Mr Jürgen Schremp, Dasa's chairman, acknowledged that "never in history has a substantial industrial marriage between the Netherlands and Germany worked." But, he added, "this one is going to work."

The link-up, designed to promote a restructuring of Europe's regional aircraft sector, comes at a time when both Dasa and Fokker are shedding jobs as they grapple with poor demand in the world market for new aircraft. Both companies have recently suffered a decline in profits.

But regardless of the short-term difficulties, the partnership is designed to be a long-term response to far-reaching changes in global aviation, including the trends towards mergers and consolidation among the airlines themselves. "The time of the national company is past," says Mr Erik Jan Nederkoorn, Fokker's president.

For Fokker, the attraction of the deal lies in the financial strength of Dasa, part of the Daimler-Benz industrial group.

Dasa has bought half of the government's 32 per cent holding and also acquired new shares in Fokker to lift its stake in a new Fokker holding company to 51 per cent. The share issue, plus a bond issue and long-term loans provided by the Dutch state, mean that Fokker will benefit from total proceeds of more than F1900m (\$500m), ensuring its future.

A first fruit of the Fokker-Dasa partnership was the recent decision by Fokker to

appoint Mr Horst Steinberg, a senior vice president at Dasa's Dornier subsidiary, as the company's new head of sales in Asia and the Middle East.

Mr Schremp has suggested that Fokker may take on the marketing of Dornier's planes - a 19-seater and a 33-seater turboprop - but no decision has yet been taken. Fokker and Dasa will face a difficult decision on when to design and build the Fokker 130, a 130-seater aircraft that is expected eventually to replace the Dutch company's current jet, the Fokker 100.

However, Fokker is close to a formal decision to launch the Fokker 70, a 79-seat jet. A prototype made its maiden flight in April, and the new aircraft is scheduled to be put on public display for the first time during the trade days of the Paris Air Show.

A central element in the contract regula-

ting Fokker's future under Dasa's control is that Fokker will be responsible for the future design and production of aircraft in the 65 to 130-seat range. This stipulation enabled Fokker to argue that the company will remain a full-fledged aircraft manufacturer with a wide scale of activities ranging from engineering and production to sales and product support, thereby overcoming objections in the Netherlands to the deal.

Fokker also insisted on this "leadership" role in regional aircraft partly because Dasa had made clear from the beginning that it intends to bring in its two partners in the "Regoliner" design project, Aerospace of France and Alenia of Italy, as shareholders in Fokker, in effect turning the Dutch company into a four-way "Airbus" of the regional aeroplane market.

Aerospace and Alenia are expected to come on board in three years' time, when the Dutch government is due to sell off its remaining Fokker shares, ending state participation in the company. However, this future stage of the Fokker-Dasa deal is likely to face more intense scrutiny - and possibly objections - from the European Commission.

The expected four-way participation later this decade will also bring to a head arrangements for the future of the Fokker 50, a turboprop that competes directly with the ATR-42, a joint product of the Italian and French companies. Dasa has given no guarantees about the future of the Fokker 50, saying only that it will have to continue proving itself in the marketplace.

Ronald van de Krol

## ■ ITALY

## Future products are a puzzle

IT HAS BEEN an *annus horribilis* for Italy's aerospace industry. Demand for military and civil aircraft has plunged, there have been allegations of corruption over helicopters, and the need for restructuring to bring capacity in line with demand has become ever more apparent, writes Haig Simonian.

The impact has been shared equally between Alenia, the leading aerospace group, Agusta in helicopters, and smaller makers such as Piaggio and Aeromacchi, in both of which Alenia has significant minority stakes.

Moreover, there has been a corporate upheaval among the two main manufacturers. Alenia, formerly a listed subsidiary of the state-controlled Finmeccanica engineering group, itself controlled by the tri-state holding company, has now been incorporated as an internal division, as part of a plan to increase the share float of Finmeccanica.

Meanwhile, the fates of Agusta and the Oto Melara missiles group have been called into question after last July's government decision to place the loss-making Efin state holding company in voluntary liquidation. Various Efin aerospace and defence assets have been "rented" to Finmeccanica at a token price pending a longer-term solution, which probably involves their incorporation into Alenia.

On the defence side, Italy's 30 per cent cut in real terms in military spending has disrupted production targets, resulting in a halving of output of Alenia's MX tactical support aircraft, produced jointly with Brazil, to two a month from four as planned.

From a forecast of 350 aircraft, production now looks unlikely to exceed 200, of which 136 have so far been ordered by Italy and 59 by Brazil. That gives Alenia enough work until 1995, after which matters become much less clear.

Originally, the termination of the MX programme was to have dovetailed with the start of production of the multilateral European Fighter Aircraft programme. But, as Mr Fausto Cereti, Alenia's joint president explains: "This programme has

so many enemies that it's going forward much more slowly than expected."

Alenia's problems on the military side are common to other European producers. Rising government budget deficits and continuing uncertainty over future defence needs have led to sharp spending cuts. "It has become much more difficult to understand what will be the products of the future," says Mr Enrico Gimelli, Alenia's other president.

Matters are no happier on the civil side. Production of the ATR regional turboprop, made jointly with France's Aérospatiale, has not reached expected targets because of the downturn in demand. "We had hoped to reach an output of 65-70 planes a year by 1994," says Mr Gimelli. "Instead, it's running at about 50 a year."

In Europe "the real crisis is just beginning"

Alenia executives deny the ATR programme, which has received 540 orders and options, is still losing money. Production is now around break-even, says Mr Gimelli, who blames continuing difficulties on price-cutting from competitors with big backlogs of unsold planes. However, he admits the drop in demand has held up plans to develop the ATR further.

The group, which is a big sub-contractor for both McDonnell Douglas and Boeing, has also been hurt by the plunge in the US market. Mr Gimelli is cautious about signs of a possible upturn after recent airline orders. "It's too soon to say there's a recovery in the US, as carriers there are very sensitive to seasonal developments. We'll have to wait until the summer season."

But he is pessimistic about the outlook in Europe. "I think the real crisis is just beginning." European carriers may have been more cautious in ordering new aircraft than some US counterparts, and the market may still be in a slightly better shape as deregulation-driven competition has not gone so far. But the impact of

falling demand remains acute.

Even Alenia's successful electronics side has had its share of difficulties lately. Although orders have been maintained and the business is doing well, the company was dragged into an undesirable spat earlier this year after winning a Mexican air traffic control order jointly with Thomson of France.

The award of the deal led to accusations of unfair play by the two companies which led the international ATC field. The case is still rumbling, but Alenia takes comfort from the fact that IBM, one of the losing parties, distanced itself from the charges levelled by a local partner. "It often happens that competitors claim the two market leaders are too strong," says Mr Cereti.

While denying the Mexican spat has hurt its image, Alenia says this year's two-month strike over job losses at its Naples plant has proved costly, financially and in terms of prestige. The dispute, resolved after a compromise on relocating 2,000 of the 5,000 workers first scheduled for redundancy, led to nail-biting moments as the group saw supply deadlines to US manufacturers looming.

Alenia widely publicised the pressure levelled by big US clients to persuade employees to return to work. But the company denies the US threats of taking future business elsewhere was just a bluff. In the worst case, crucial parts for one US manufacturer were delivered just a day before the contract deadline, recalls Mr Cereti. "We became Japanese-style just-in-time suppliers without really wanting to," he admits.

"Obviously, clients were getting worried. We were lucky in that the market was in recession, so production lines never had to be halted because of us. But these things leave lingering doubts, and our clients are bound to wonder what might have happened had the strike taken place when the market was in an upturn," he says. "Customers may have some sympathy for our efforts to slim down the company. But now we'll have to work hard to show Naples is a credible plant."

## ■ SPAIN

## Casa given a capital tonic

CASA, Spain's state-owned aerospace group, echoes the sector worldwide in saying the industry is going through its bleakest period for a long time but at least it has something to smile about.

In February the Instituto Nacional de Industria, the state holding company which owns Casa, or to give it its full name, Construcciones Aeronáuticas, finally agreed to a Pta42.3bn (\$35m) capital increase. For several years fresh capital had been a priority and its arrival gives the balance sheet strength the company had formerly lacked.

Last month a second boost, every bit as important, materialised when the industry ministry unveiled a Pta120.1bn investment plan, spread over six years, for the domestic aerospace sector. This has the approval of the European Community which has undertaken to supply favourable credit lines.

Two-thirds of the plan is targeted at two of Casa's biggest undertakings: the Airbus programme and development of a fast turboprop passenger aircraft, the Casa 3000.

The industry ministry's decision to back the aircraft came just a few weeks after Casa had determined to proceed with its design and building. The group's commitment came after nine months of exhaustive feasibility studies with prospective customers and operators. These identified what Casa believes is a niche in the market.

With a cruising speed of 350 knots at altitudes up to 31,000 feet, the Casa 3000 will have a range of more than 1,000 nautical miles with a full payload of 70-78 passengers. Designed for the regional air transport market, it will be built over the next four years and the company believes it will prove the most economical replace-

ment for small jets operating low-density routes.

Casa says it will provide block times similar to jets, at a spectacularly low operational cost. However, the big selling point is that it provides jet comfort at turboprop costs in both hub-and-spoke and point-to-point operations.

The aircraft's combination of speed and short turnaround time ensures, according to Casa, a high operational flexibility and marked improvement in productivity over conventional and slower turboprops.

Casa has nailed its colours to the Inter-

**TOM BURNS on the fortunes of the state-owned group**

regional traffic mast. That is a sector it knows well through its existing aircraft, the C-212 and the CN-235 and in which it has built up further expertise through co-operation in the Saab 2000 programme.

Like Saab and other aerospace companies, Casa has made projections for the growth of inter-regional traffic. It foresees European traffic growing at a rate of 4.9 per cent between the years 2000 and 2009, an increase of 6.9 per cent over the same period in Asia and the Pacific region and only slightly less in the American market.

The Casa 3000 programme could not have come at a better time for the company. In recent months it has been in turmoil over the debate on the future of the Airbus consortium and European Fighter Aircraft (EFA) programme.

A founder member of both multinational projects, Casa has placed a lot of importance on their continued progress. The company's space division may well have

further cause for gloom if cuts and cancellations are implemented as a result of reassessment of the European Space Agency, particularly the future of the Columbus and Hermes programmes.

Casa's maintenance division, a money-spinner for years, has also been hard-hit. Spain's defence ministry has scaled back its requirements because of big budget cuts and, worse still in psychological and income terms, the US Air Force has ended a maintenance contract that Casa had for F15 combat planes since the 1960s.

Despite these difficulties, the group had a reasonable financial year in 1992. In part, that was due to an increase in sales from Pta87.4bn to Pta91.8bn. Casa was also able marginally to reduce its labour force and annual income per employee rose from Pta9.9m in 1991 to Pta10.7m last year.

In 1991-1992 some 300 jobs were shed from the total of 9,338 and the company is now in the process of losing 450 through voluntary early retirement. This second round of lay-offs is likely to be followed by a third but it is an expensive business, adding Pta3.3bn to extraordinary costs this year.

To a far greater extent, however, the 1992 results benefited from a 45 per cent drop in financial costs to Pta7.3bn. As a result, Casa reduced 1991 losses of Pta6.9bn to Pta3.5bn last year.

This year, after seven years in the red, the group hopes to break even. The improved balance sheet after the capital increase will no doubt help to bring that objective within reach. The company is also set to benefit from successive devaluations of the peseta. The dollar, responsible for about 80 per cent of business, has revalued by about 20 per cent against the domestic currency in the past year.

## ■ SWEDEN

## JAS: real test is yet to come

AFTER A troubled development phase, the military side of Sweden's aerospace industry can at last boast a few successes. In April the JAS 39 Gripen multi-purpose fighter aircraft successfully undertook its 1,000th test flight, and this month the first aircraft is scheduled to be delivered to the Swedish air force, writes Christopher Brown-Humes.

For a programme that has fallen a year behind schedule and run well over cost estimates - and that at times looked as if it might collapse completely - these are tangible achievements. But the JAS needs to make a breakthrough into the export market to ensure commercial success, and so the real test is still to come. There was acute disappointment when the Finnish government opted last year to buy 57 new F18s from the US group McDonnell Douglas, rather than the JAS.

For the moment, the programme is underpinned by a healthy order book from Sweden's air force, with the final delivery not due until 2001. An initial order for 30 aircraft was supplemented last year by one for a further 110, which did much to cushion the blow of the lost Finnish order.

These domestic orders have provided the consortium manufacturing the JAS - Saab-Scania, Volvo Flygmotor, Ericsson Radar Electronics and FFV Aerotech (part of the Celsius defence group which is currently being privatised) - with a good platform from which to launch their drive for

further business, both at home and abroad.

The manufacturers are hoping for further orders from the Swedish air force - possibly for as many as 150 aircraft - after parliament decided last year to maintain a fleet of 18 combat squadrons to meet the country's future defence needs.

Further, they project a worldwide replacement need of 3,000 military aircraft in the next 10-20 years (even allowing

government's decision to privatise the defence group Celsius where it is specifically hoped that private sector status will facilitate co-operation with foreign partners. In the military aerospace sector, it is considered unlikely that Sweden will ever again develop a new aircraft on its own as collaboration is seen as the only way to secure markets cost-effectively. Saab Military Aircraft, part of Saab-Scania, is reluctant to

identify the markets it is targeting, although countries in south-east Asia, Latin America and central and eastern Europe have all been mentioned.

Tough competition is likely from the American F16 and F18, Mirage 2000-5 and Mig 29 planes, which are all in a similar price bracket. However, in performance terms, the manufacturers say the JAS should be compared with the new generation of fighters, including the Eurofighter 2000, the Rafale and the F22.

Whether it turns out good value for its manufacturers is another matter. The project's delays and the fact that the first 30 aircraft were ordered at a fixed price are believed to have cost the prime contractor, Saab-Scania, heavily in the late 1980s. Some ground should be recouped with the second order, but a real profits take-off will probably come only with export orders.

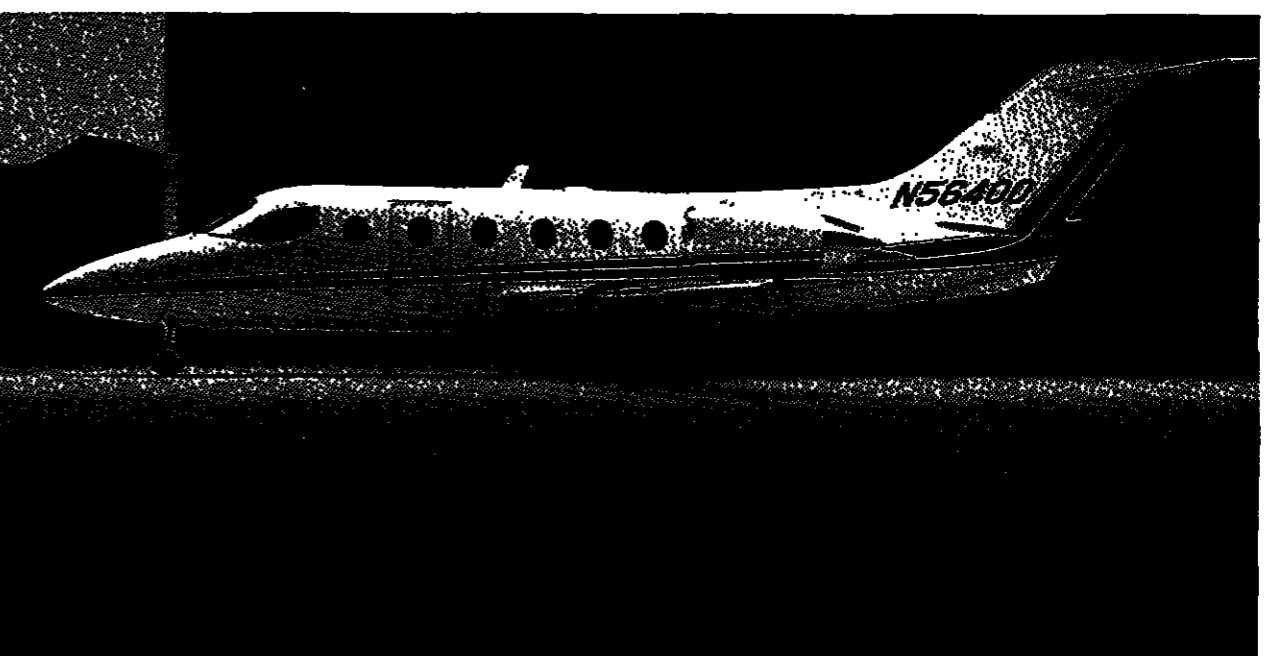
Whether the project turns out good value for its manufacturers is another matter. A real profits take-off will probably come only with export orders

One of the arguments that is thought to have persuaded the Swedish government to persist with JAS is the spin-off effects for the country's civil aviation business, which is also centred on Saab-Scania. The commercial side of Sweden's aerospace industry has developed successfully, but because of the downturn in world market conditions, new orders for Saab aircraft have not materialised as quickly as anticipated, and some have been cancelled.

The civilian side of the company's air business is concentrated on two aircraft - the 35-seater Saab 340 and its bigger sister, the Saab 2000, which can carry 50 to 58 passengers. Test flights for the latter began only last year, and the first customer delivery is scheduled for this autumn.

A breakthrough came in the early part of the year when a Chinese airline agreed to buy five Saab 2000 aircraft this year, and took options on a further 15 for delivery in 1996 and 1998. But many more such orders will be needed to recoup development costs.

Saab Aircraft, which comprises Saab Military Aircraft and the commercial aircraft operations, made a profit of SKR163m last year, or 8.7 per cent in pre-tax returns on capital employed. That is slightly above the SKR150m recorded in 1991, even though sales fell to SKR3.82bn from SKR4.93bn. Even so, it is well short of what the company hopes to achieve in the late 1990s if foreign orders for the JAS and Saab 2000 come flooding in.



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David White on the advantages of collaboration

## Eurofighter goes ahead

THE EUROFIGHTER will have taken at least 15 years to come into service from the time Britain, Germany, Spain and Italy agreed in 1985 on the basic characteristics of a joint aircraft.

The most broadly based collaborative fighter project ever attempted in Europe, it will have been through several changes of identity in the process.

The European Fighter Aircraft programme was relaunched last December, briefly as the New EFA and then as the Eurofighter 2000, but the partners are still looking for a more inspired name. The rechristening was mainly a way of enabling Mr Volker Rühe, Germany's defence minister, to save face after campaigning to stop the £32bn project and replace it with a cheaper and less sophisticated aircraft.

Although revised and subjected to a cost overhaul, the fighter is essentially the same that aerospace companies in the four nations have been developing for the past six years, with allowance for different versions to take into account the partners' different visions of what they want the aircraft to do.

Details of the changed pro-

gramme have taken longer than expected to sort out. The December agreement in Brussels, in which Germany in effect rejoined the project, was heavily publicised. But when junior ministers met in Bonn in April to agree on the new programme outlines, the event went unannounced.

Although new military requirements are now set and a new schedule is in place -

**The flight control system's costs are reckoned to have gone up 60 per cent because of contract changes**

leaving production decisions until after the next German elections in 1994 - many questions have still to be resolved.

These include Germany's share in production. It has so far taken 33 per cent of development work, based on an original expectation that it would buy 250 of the aircraft. The current working assumption is that it will buy 140. Together, the number due to be produced for the four partners has shrunk to about 600 from the initial figure of 765.

New memorandums of understanding and industrial

contracts have still to be signed. Further problems could emerge if, for instance, Germany decides to install a cheaper radar of its own choice, instead of the GEC Feranti-led ECR90, which is half-way through development. Industry experts say the implications of having to integrate two different radars into the aircraft "could be horrendous".

Technical problems, including the generator and the flight control system, have already caused serious delays. The first prototype, assembled in Germany, is not due to fly until September at the earliest - two years late.

Last year's crisis over German participation blew up after the industrial consortium, Eurofighter, submitted its price quotation for the production phase. In their review of the programme, the partners identified potential savings of between 12 and 23 per cent on the cost of producing the aircraft and setting up logistic support. Nevertheless, costs are substantially higher than originally expected.

The UK has confirmed that its estimated total share of the programme stands at £13bn at today's prices compared to the "£6bn to £7bn" stated by the government in 1988, a differ-

ence which can be partly but not wholly attributed to inflation.

The Ministry of Defence says that its projected cost in 1987 was in fact £7.8bn and that it was then planning, unbeknown to anyone, to buy 200 aircraft rather than the officially-declared 250. It has now reaffirmed its intention to buy 250. Allowing for this difference and inflation, it says, the cost overrun is £1.1bn. Programme managers add that these estimates are no more than an indication. In the absence of any production contracts.

However, the cost of development has also increased in real terms, despite a regime of fixed, inflation-adjustable prices. The UK share, 33 per cent of the total, was stated in 1988 as £1.7bn. It is now put by British Aerospace, the UK partner in Eurofighter, at roughly double that figure.

One example of how prices can escalate is the flight control system, where costs are reckoned to have gone up 60 per cent because of contract changes. The system comes under the overall charge of Deutsche Aerospace, the German Eurofighter partner. GEC-Marconi of the UK, responsible for the critical software input, found that the processing



The Eurofighter 2000: the first prototype was built by Deutsche Aerospace at Manching, Germany

power provided for was inadequate.

Some of the functions of the system are due to be dropped to enable the first flight to place and to be incorporated at a later stage.

Development costs will also

rise as a result of the rescheduling of the programme, with the first aircraft not due to enter service with the British and Italian air forces until 2000, two years later than previously envisaged, and the Germans and Spanish not sched-

uled to take delivery of theirs before 2002.

The partner governments have accepted in principle that terms should be revised upwards for Eurojet, the engine grouping of Rolls-Royce, Fiat, MTU of Germany and ITP of Spain, recognising that the consortium will now have to support a longer test programme.

Eurofighter, responsible for the aircraft itself, is held to be in a different position since it is behind schedule on the programme. But it has also sought an increase, with Mr John Vincent, its managing director, insisting that "if you are going to stretch a given programme, it is going to cost you money."

On the German side, it has not been clear where payment for the current development work will come from. The funding requirement for this year, including outstanding bills left from last year, was about DM1bn, but barely half of this has been forthcoming. The expected outcome is that Dasa itself will provide the interim finance, since the other partner countries were not ready to bridge the gap.

Hopes that some had vested in the project as the founda-

tion of a new European military aircraft venture have been set back by the arguments of the last 12 months. Dasa has actively promoted the idea, hoping to draw the French into a Europe-wide enterprise. "As a vision we really see it," says Mr Harmut Mehdorn, new head of Dasa's aircraft group.

The first step was to be a merger between the programme's administration and that of its European forerunner, the Anglo-German-Italian Tornado. This involves joining Eurofighter with the Tornado company Panavia and fusing the two intergovernmental management agencies, known respectively as NEFMA and NAMMA.

A merger was to take place last year, but Mr Vincent says he advised delaying it when the political difficulties surrounding Germany's participation in Eurofighter erupted.

For all the problems and tensions, however, the partners are firmly committed to the programme. Even before it takes off, Eurofighter provides a clear demonstration of at least one advantage of collaborative projects: that they are extremely resistant to attempts to kill them off.

Restructuring in the US and Europe creates new giants

## Weapons guided to mergers

ON BOTH sides of the Atlantic, the guided weapons industry is in mutation.

The announcement that British Aerospace and Matra of France have been negotiating a missile merger is expected to spur wider restructuring of the sector in Europe, based on one or two major groupings.

In the US, further consolidation is also expected after the purchase of General Dynamics' missile interests - including such familiar products as the Stinger ground-to-air weapon and the Tomahawk sea-launched cruise missile - by General Motors' Hughes subsidiary last year.

The takeover has created a second giant in the US and world league alongside Raytheon, producer of the Patriot missile which became a household word in the 1991 Gulf war. Also in the last year, Loral took over LTV's missile business after acquiring Ford Aerospace in 1990.

The number of competitors is likely to be further reduced in a climate of tighter defence budgets.

However, Mr Dan Tellep, chairman and chief executive of Lockheed, warns: "Size, of itself, is not a guarantee of success." He believes companies can still survive in niche markets.

The BAe-Matra plan took shape after BAe abandoned efforts to forge a missile merger with Thomson-CSF, the French electronics company, in 1991.

The joint venture plan, expected to be completed early next year, will create a company with annual sales of more than £1bn. This would be several times more than any other European company in the field, and if others were brought into the project could surpass the leading US

manufacturers in missile sales.

The door has been left open to Aérospatiale, now due for privatisation, and Deutsche Aerospace, the Daimler-Benz subsidiary. These two have already been talking about deepening their 20-year association in Euromissile, the joint venture responsible for the Milan anti-tank weapon and the Roland ground-to-air system.

The question remains, however, of where Thomson-CSF would fit in the French scheme of things. The announcement of Matra's plans with BAe came shortly after Thomson-CSF linked forces with Short Brothers in very short range air defence weapons. This was a direct challenge to Matra.

A further question concerns GEC-Marconi, traditional supplier of guidance systems for UK missiles. It was at one stage thought likely it might absorb BAe's Dynamics division. However the latter's sagging fortunes took a turn for the better last year, particularly when it won the UK contract for a short-range air-to-air missile - ASRAAM - against a rival project by GEC-Marconi and Matra.

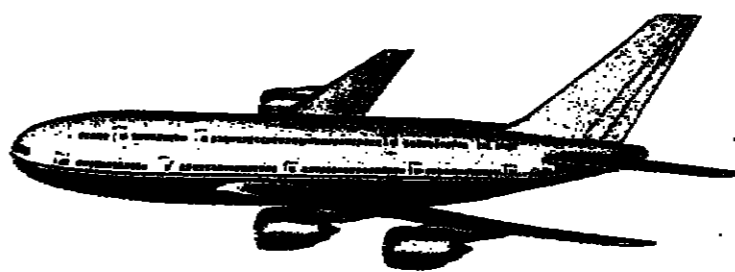
Matra and BAe hope to strengthen their presence on world markets with largely complementary product lines. The main area in which their products overlap is medium-range air-to-air missiles. But the two could combine efforts in this sector to field an alternative to Hughes' AMRAAM

to equip the Eurofighter 2000. BAe is already working with Saab of Sweden on a new generation missile in this category, and has been looking at using a Thomson-CSF seeker.

BAe could also back up Matra's bid to sell its Apache air-to-ground weapon to the UK. Competitors are likely to include Hughes, with a version of the Tomahawk, McDonnell Douglas, Aérospatiale and GEC-Marconi with a weapon that Abu Dhabi has so far paid to develop. BAe does not have its own product to enter into the competition.

Two other major UK projects are potential victims of the government's current budget review. A new air defence programme to replace the obsolete Bloodhound missile may be cancelled or staggered, and a £3bn nuclear missile plan for the RAF could well be abandoned. In this climate, companies are counting to a greater extent than ever before on overseas markets.

David White



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# Shooting Star aims for domination

Simon Holberton charts the rise of the Hong Kong TV broadcaster

In the emerging battle for the attention of Asia's television viewers, Star Television, the Hong Kong-based satellite TV company, is no shrinking violet.

Talk to senior Star executives and you will hear forecasts of dramatic growth within the industry. They predict the number of broadcast TV channels to expand from the current five "free-to-air" channels to anything from 80 to 100, mostly pay channels, by 1996.

Underlying this outlook is a strategy of dominance in the skies - by seeking to corner available, satellite capacity - and on the ground by tying down cable TV distributors. Company executives say money is not a problem.

The main reason for this, they say, is Star's owner, Star is 50 per cent owned by Mr Li Ka-shing, one of Hong Kong's wealthiest men, with the rest owned by Hutchison Whampoa, which Mr Li also controls. Another reason is that of the \$600m committed in 1991 to

STAR Television will become the sole supplier to Wharf Cable, the cable television arm of the Wharf group, of international television programmes for Wharf's cable network in Hong Kong, the two companies said yesterday.

Wharf, which was recently awarded a pay TV licence, plans to be operating a cable network in October. Initially it will transmit 20 channels on a subscription basis.

Star and its sister company Media Assets, which buys programming, only \$360m has so far been spent.

Star began broadcasting in May 1991 and by the end of the year it had five "free-to-air" channels running 24 hours a day. According to research commissioned by Star, by February this year more than 45m viewers, in 38 countries from China to Indonesia and Japan to Afghanistan, were tuning into one of its five channels.

It is these sort of figures that have attracted US and British media companies. The initial interest from Mr Rupert Murdoch's News Corporation and Pearson, the diversified UK conglomerate, was for equity participation in Star TV itself.

These preliminary discussions are believed to have foundered on the issue of control. Star executives say that Mr Li, for the foreseeable future, does not want to cede control of the network to any outsider.

Mr Murdoch appears to have retreated to consider his next move, while Pearson's current aim, these executives say, is now more modest. It could result in joint venture deals for an English-language education channel - which would dovetail well with Pearson's educational books expertise - and co-operation on a planned business news channel.

Indeed Star's preferred relationship with potential partners is of the joint venture type. Four of the five channels it currently broadcasts - BBC World Service News, MTV, Prime Sports and a Mandarin Chinese station - are this type of arrangement.

"We want to do partnership deals at channel level," says Mr Julian Mounter, Star's recently installed chief executive. "We are talking to a lot of people about equity in channels. There has been considerable interest in wanting to invest in our free-to-air service, or our subscription service."

By the end of this year, or early next year, Star plans to begin broadcasting five more pay-TV channels. As satellite capacity expands so Star plans to acquire the use of more transponders, or transmitters, and push out more TV channels, especially pay channels.

"When we start subscription services we will be able to move from pan-regional to a whole series of national opportunities," Mr Mounter says.

Star is also investing in new broadcast technology - based on digital compression - and may well be the first commercial broadcaster to use it. Digital compression allows a single transponder to broadcast up to eight separate TV channels at once.

The company currently broadcasts on an AsiaSat satellite - Hutchison owns a third of AsiaSat, together with Cable and Wireless and Citic, Beijing's international investment arm - where it has 11 transponders (of 24) and exclusive rights to broadcast TV internationally. AsiaSat plans to launch



Li Ka-shing, may have to consider outside equity participation

AsiaSat2 towards the end of 1994 or early 1995 and APT Satellite, a mainland Chinese consortium, will launch Apstar2 around the same time. Both satellites will have large "footprints" - the area where a TV signal can be received - covering up to 75 per cent of the world's population and extending from Tokyo to Berlin and Ulan Bator to Hobart.

Star has an option to take eight transponders on AsiaSat2, of a total of 32. It was recently reported that it has signed a \$350m deal with APT to lease 20 of Apstar2's 34 transponders. When asked if the report were true, Mr Mounter was evasive, only saying: "We have a deal with AsiaSat and nothing has changed."

In both cases, Star is believed to be seeking exclusive rights, thereby squeezing out potential US and European competitors which might want to start a rival network. But Star's position is not as strong as it may seem.

Star is also investing in new broadcast technology - based on digital compression - and may well be the first commercial broadcaster to use it. Digital compression allows a single transponder to broadcast up to eight separate TV channels at once.

The costs of leasing transponders are high - \$1.25m to \$1.5m a year each - and so is investment in new broadcast technology, such as digital compression. Star is reluctant to talk about costs associated

with this and the cost of its back-up satellite link station in Thailand.

An indication of size of the start-up costs and their impact on a large company was given in 1991 when Hutchison, Star's joint owner, made a controversial change to its accounting policies. For its telecoms and media businesses it changed from the accepted accruals method of accounting to one where costs and revenues are accounted for as they are paid or received. Also, it decided to amortise start-up costs and expenses over periods of up to 10 years.

Star will provide no details of its financial situation, including advertising revenues. Mr Mounter claims that advertising revenues are growing strongly. He also contends that Asia is a more homogeneous advertising market than Europe. "Asians have more of a corporate view of life. They do not have a resistance to pan-national campaigns," he claims.

Star appears closer to cracking one early problem it encountered: programming. There was early resistance to selling Star "software" because it was broadcast to so many countries. Providers were concerned that they could not sell theirs in local markets.

"To distribute to 38 countries is expensive," says Mr Mounter. "The profit, after expenses, of distributing to them all is small. So when they equate what they can get from coming to a one-stop-shop like us with the difficulties of revenue collection in Asia they are beginning to think again."

## Merrill Lynch names new chairman

By Patrick Harverson in New York

MERRILL Lynch, the largest securities house in the US, confirmed yesterday that Mr Daniel Tully, the firm's president and chief executive, will replace Mr William Schreyer as chairman at the end of this month when Mr Schreyer retires.

The ascension of Mr Tully to the top spot at Merrill was expected - when he was appointed chief executive in May 1992, the firm indicated that Mr Tully would eventually take over from Mr Schreyer as chairman.

Yesterday's announcement, however, leaves open who is to succeed Mr Tully. Among possible candidates for the top post are the two executives who run Merrill's most successful business groups - Mr John Steffens, head of the firm's individual investor business, and Mr Barry Friedberg, the investment banking supremo.

Alliance Communications has filed a preliminary prospectus with Canadian securities regulators for a public offering of common shares. Reuter reports from Toronto.

The issue is being underwritten by Midland Walwyn Capital, Wood Gundy, Gordon Capital Corp and Marleau Lemire Securities.

## POLAND

The FT proposes to publish this survey on June 17 1993

It will be seen by leading international businessmen in 160 countries worldwide. If you would like to promote your company's activities to this important audience, please contact:

Patricia Surridge in London  
Tel: (071) 873 3426  
Fax: (071) 873 3428

or  
Nina Kowalewska in Warsaw  
Tel: (22) 48 97 87  
Fax: (22) 48 97 87

FT SURVEYS

All of these securities having been sold, this announcement appears as a matter of record only.

June, 1993  
Concurrent Worldwide Offering



7,500,000 American Depositary Shares  
Representing  
37,500,000 Ordinary Shares

Fila Holding S.p.A.

Price \$18 Per American Depositary Share

This portion of the offering was offered outside the United States and Canada by the undersigned.

2,300,000 American Depositary Shares

Salomon Brothers International Limited Goldman Sachs International Limited

|                                    |                              |                 |
|------------------------------------|------------------------------|-----------------|
| Gemina Europe Bank S.A.            | Banca Commerciale Italiana   | Banque Indosuez |
| Barclays de Zoete Wedd Limited     | Credit Lyonnais Securities   |                 |
| Credit Suisse First Boston Limited | Daiwa Europe Limited         |                 |
| Deutsche Bank                      | S.G. Warburg Securities Ltd. |                 |

This portion of the offering was offered in the United States by the undersigned.

5,200,000 American Depositary Shares

|   |                                     |
|---|-------------------------------------|
| Salomon Brothers Inc                        | Goldman, Sachs & Co.                |
| Bear, Stearns & Co. Inc.                    | Alex. Brown & Sons                  |
| Dillon, Read & Co. Inc.                     | A.G. Edwards & Sons, Inc.           |
| Kidder, Peabody & Co.                       | Lehman Brothers                     |
| Merrill Lynch & Co.                         | J.P. Morgan Securities Inc.         |
| Morgan Stanley & Co.                        | PaineWebber Incorporated            |
| Prudential Securities Incorporated          | Smith Barney, Harris Upham & Co.    |
| Wertheim Schroder & Co.                     | Dean Witter Reynolds Inc.           |
| Arnhold and S. Bleichroeder, Inc.           | William Blair & Company             |
| Dain Bosworth                               | Legg Mason Wood Walker              |
| McDonald & Company                          | Piper Jaffray Inc.                  |
| Raymond James & Associates, Inc.            | The Robinson-Humphrey Company, Inc. |
| Sutro & Co. Incorporated                    | Wheat First Butcher & Singer        |
| Adams, Harkness & Hill, Inc.                | Black & Company, Inc.               |
| Gruntal & Co., Incorporated                 | C.J. Lawrence Inc.                  |
| Mabon Securities Corp.                      | Neuberger & Berman                  |
| The Principal/Eppler, Guerin & Turner, Inc. | Ragen MacKenzie                     |
| Rodman & Renshaw, Inc.                      | Wedbush Morgan Securities           |

All of these securities having been sold, this announcement appears as a matter of record only.

June 1993

2,070,000 Shares



General Signal Corporation

Common Stock

Donaldson, Lufkin & Jenrette Securities Corporation

The First Boston Corporation

Lehman Brothers

Morgan Stanley & Co.

Incorporated

Salomon Brothers Inc

Standard Chartered

Standard Chartered PLC

US\$400,000,000 Undated Primary Capital Floating Rate Notes (Series 3)

In accordance with the provisions of the Notes, notice is hereby given that for the interest period from 8th June 1993 to 8th December 1993 the Notes will carry interest at the rate of 3.5875 per cent. per annum.

Interest payable on 8th December 1993 will amount to US\$182.36 per US\$10,000 Note and US\$4,559.11 per US\$250,000 Note.

West Merchant Bank Limited  
Agent Bank

COMPAGNIE BANCAIRE  
COMPAGNIE BANCAIRE  
FRF 800,000,000  
FLOATING RATE  
NOTES DUE 1997  
Notice is hereby given that pursuant to paragraph "Purchase and Redemption", (d) "Redemption at the option of the Noteholders", of the Terms and Conditions of the Notes, a nominal amount of FRF 4,500,000 has been presented for redemption on the Interest Payment Date falling on June 16, 1993. Nominal amount outstanding after June 16, 1993: FRF 560,640,000  
The Principal Paying Agent SOGENAL SOCIETE GENERALE GROUP  
15, avenue Emile Reuter LUXEMBOURG

Notice of Early Redemption  
BANQUE NATIONALE DE PARIS  
ECU 75,000,000  
8 3/4% Bonds due 1995  
Notice is hereby given that pursuant to paragraph (b) "Optional Redemption" of the Terms and Conditions of the Bonds, BNP has called for redemption on 23rd July 1993 (The Redemption Date) all the outstanding Bonds, at par, plus accrued interest from 23rd August 1992 to 23rd July 1993. The Bonds will cease to accrue interest on the Redemption Date.  
Payment of principal will be made upon presentation and surrender of the Bonds together with all unattached coupons at the offices of the:  
Principal Paying Agent  
Banque Nationale de Paris (Luxembourg) S.A.  
24 Boulevard Royal  
L-2952 Luxembourg  
Paying Agent  
Banque Nationale de Paris Plc  
8-13 King William Street  
London EC4P 4HS  
Luxembourg, 8th June 1993













### INVESTMENT TRUSTS - Cont.

**INVESTMENT TRUSTS - CO**[illegible]

LONDON SHARE SERVICE

INVESTMENT TRUSTS - Cont.

| Trust Name | Price | 1993 | 1992 | 1991 | 1990 | 1989 | 1988 | 1987 | 1986 | 1985 | 1984 | 1983 | 1982 | 1981 | 1980 | 1979 | 1978 | 1977 | 1976 | 1975 | 1974 | 1973 | 1972 | 1971 | 1970 | 1969 | 1968 | 1967 | 1966 | 1965 | 1964 | 1963 | 1962 | 1961 | 1960 | 1959 | 1958 | 1957 | 1956 | 1955 | 1954 | 1953 | 1952 | 1951 | 1950 | 1949 | 1948 | 1947 | 1946 | 1945 | 1944 | 1943 | 1942 | 1941 | 1940 | 1939 | 1938 | 1937 | 1936 | 1935 | 1934 | 1933 | 1932 | 1931 | 1930 | 1929 | 1928 | 1927 | 1926 | 1925 | 1924 | 1923 | 1922 | 1921 | 1920 | 1919 | 1918 | 1917 | 1916 | 1915 | 1914 | 1913 | 1912 | 1911 | 1910 | 1909 | 1908 | 1907 | 1906 | 1905 | 1904 | 1903 | 1902 | 1901 | 1900 | 1899 | 1898 | 1897 | 1896 | 1895 | 1894 | 1893 | 1892 | 1891 | 1890 | 1889 | 1888 | 1887 | 1886 | 1885 | 1884 | 1883 | 1882 | 1881 | 1880 | 1879 | 1878 | 1877 | 1876 | 1875 | 1874 | 1873 | 1872 | 1871 | 1870 | 1869 | 1868 | 1867 | 1866 | 1865 | 1864 | 1863 | 1862 | 1861 | 1860 | 1859 | 1858 | 1857 | 1856 | 1855 | 1854 | 1853 | 1852 | 1851 | 1850 | 1849 | 1848 | 1847 | 1846 | 1845 | 1844 | 1843 | 1842 | 1841 | 1840 | 1839 | 1838 | 1837 | 1836 | 1835 | 1834 | 1833 | 1832 | 1831 | 1830 | 1829 | 1828 | 1827 | 1826 | 1825 | 1824 | 1823 | 1822 | 1821 | 1820 | 1819 | 1818 | 1817 | 1816 | 1815 | 1814 | 1813 | 1812 | 1811 | 1810 | 1809 | 1808 | 1807 | 1806 | 1805 | 1804 | 1803 | 1802 | 1801 | 1800 | 1799 | 1798 | 1797 | 1796 | 1795 | 1794 | 1793 | 1792 | 1791 | 1790 | 1789 | 1788 | 1787 | 1786 | 1785 | 1784 | 1783 | 1782 | 1781 | 1780 | 1779 | 1778 | 1777 | 1776 | 1775 | 1774 | 1773 | 1772 | 1771 | 1770 | 1769 | 1768 | 1767 | 1766 | 1765 | 1764 | 1763 | 1762 | 1761 | 1760 | 1759 | 1758 | 1757 | 1756 | 1755 | 1754 | 1753 | 1752 | 1751 | 1750 | 1749 | 1748 | 1747 | 1746 | 1745 | 1744 | 1743 | 1742 | 1741 | 1740 | 1739 | 1738 | 1737 | 1736 | 1735 | 1734 | 1733 | 1732 | 1731 | 1730 | 1729 | 1728 | 1727 | 1726 | 1725 | 1724 | 1723 | 1722 | 1721 | 1720 | 1719 | 1718 | 1717 | 1716 | 1715 | 1714 | 1713 | 1712 | 1711 | 1710 | 1709 | 1708 | 1707 | 1706 | 1705 | 1704 | 1703 | 1702 | 1701 | 1700 | 1699 | 1698 | 1697 | 1696 | 1695 | 1694 | 1693 | 1692 | 1691 | 1690 | 1689 | 1688 | 1687 | 1686 | 1685 | 1684 | 1683 | 1682 | 1681 | 1680 | 1679 | 1678 | 1677 | 1676 | 1675 | 1674 | 1673 | 1672 | 1671 | 1670 | 1669 | 1668 | 1667 | 1666 | 1665 | 1664 | 1663 | 1662 | 1661 | 1660 | 1659 | 1658 | 1657 | 1656 | 1655 | 1654 | 1653 | 1652 | 1651 | 1650 | 1649 | 1648 | 1647 | 1646 | 1645 | 1644 | 1643 | 1642 | 1641 | 1640 | 1639 | 1638 | 1637 | 1636 | 1635 | 1634 | 1633 | 1632 | 1631 | 1630 | 1629 | 1628 | 1627 | 1626 | 1625 | 1624 | 1623 | 1622 | 1621 | 1620 | 1619 | 1618 | 1617 | 1616 | 1615 | 1614 | 1613 | 1612 | 1611 | 1610 | 1609 | 1608 | 1607 | 1606 | 1605 | 1604 | 1603 | 1602 | 1601 | 1600 | 1599 | 1598 | 1597 | 1596 | 1595 | 1594 | 1593 | 1592 | 1591 | 1590 | 1589 | 1588 | 1587 | 1586 | 1585 | 1584 | 1583 | 1582 | 1581 | 1580 | 1579 | 1578 | 1577 | 1576 | 1575 | 1574 | 1573 | 1572 | 1571 | 1570 | 1569 | 1568 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| 1281 | 1280 | 1279 | 1278 | 1277 | 1276 | 1275 | 1274 | 1273 | 1272 | 1271 | 1270 | 1269 | 1268 | 1267 | 1266 | 1265 | 1264 | 1263 | 1262 | 1261 | 1260 | 1259 | 1258 | 1257 | 1256 | 1255 | 1254 | 1253 | 1252 | 1251 | 1250 | 1249 | 1248 | 1247 | 1246 | 1245 | 1244 | 1243 | 1242 | 1241 | 1240 | 1239 | 1238 | 1237 | 1236 | 1235 | 1234 | 1233 | 1232 | 1231 | 1230 | 1229 | 1228 | 1227 | 1226 | 1225 | 1224 | 1223 | 1222 | 1221 | 1220 | 1219 | 1218 | 1217 | 1216 | 1215 | 1214 | 1213 | 1212 | 1211 | 1210 | 1209 | 1208 | 1207 | 1206 | 1205 | 1204 | 1203 | 1202 | 1201 | 1200 | 1199 | 1198 | 1197 | 1196 | 1195 | 1194 | 1193 | 1192 | 1191 | 1190 | 1189 | 1188 | 1187 | 1186 | 1185 | 1184 | 1183 | 1182 | 1181 | 1180 | 1179 | 1178 | 1177 | 1176 | 1175 | 1174 | 1173 | 1172 | 1171 | 1170 | 1169 | 1168 | 1167 | 1166 | 1165 | 1164 | 1163 | 1162 | 1161 | 1160 | 1159 | 1158 | 1157 | 1156 | 1155 | 1154 | 1153 | 1152 | 1151 | 1150 | 1149 | 1148 | 1147 | 1146 | 1145 | 1144 | 1143 | 1142 | 1141 | 1140 | 1139 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662 | 661 | 660 | 659 | 658 | 657 | 656 | 655 | 654 | 653 | 652 | 651 | 650 | 649 | 648 | 647 | 646 | 645 | 644 | 643 | 642 | 641 | 640 | 639 | 638 | 637 | 636 | 635 | 634 | 633 | 632 | 631 | 630 | 629 | 628 | 627 | 626 | 625 | 624 | 623 | 622 | 621 | 620 | 619 | 618 | 617 | 616 | 615 | 614 | 613 | 612 | 611 | 610 | 609 | 608 | 607 | 606 | 605 | 604 | 603 | 602 | 601 | 6 |
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## CANADA

[illegible]

4 pm close June 7

## NEW YORK STOCK EXCHANGE COMPOSITE PRICES

| 1993 |        |        |        |         |     |     |        |        |        |
|------|--------|--------|--------|---------|-----|-----|--------|--------|--------|
| Low  | High   | Open   | Close  | Net Chg | Vol | Low | High   | Open   | Close  |
| 100  | 100.00 | 100.00 | 100.00 | 0.00    | 100 | 100 | 100.00 | 100.00 | 100.00 |
| 101  | 101.00 | 101.00 | 101.00 | 0.00    | 101 | 101 | 101.00 | 101.00 | 101.00 |
| 102  | 102.00 | 102.00 | 102.00 | 0.00    | 102 | 102 | 102.00 | 102.00 | 102.00 |
| 103  | 103.00 | 103.00 | 103.00 | 0.00    | 103 | 103 | 103.00 | 103.00 | 103.00 |
| 104  | 104.00 | 104.00 | 104.00 | 0.00    | 104 | 104 | 104.00 | 104.00 | 104.00 |
| 105  | 105.00 | 105.00 | 105.00 | 0.00    | 105 | 105 | 105.00 | 105.00 | 105.00 |
| 106  | 106.00 | 106.00 | 106.00 | 0.00    | 106 | 106 | 106.00 | 106.00 | 106.00 |
| 107  | 107.00 | 107.00 | 107.00 | 0.00    | 107 | 107 | 107.00 | 107.00 | 107.00 |
| 108  | 108.00 | 108.00 | 108.00 | 0.00    | 108 | 108 | 108.00 | 108.00 | 108.00 |
| 109  | 109.00 | 109.00 | 109.00 | 0.00    | 109 | 109 | 109.00 | 109.00 | 109.00 |
| 110  | 110.00 | 110.00 | 110.00 | 0.00    | 110 | 110 | 110.00 | 110.00 | 110.00 |
| 111  | 111.00 | 111.00 | 111.00 | 0.00    | 111 | 111 | 111.00 | 111.00 | 111.00 |
| 112  | 112.00 | 112.00 | 112.00 | 0.00    | 112 | 112 | 112.00 | 112.00 | 112.00 |
| 113  | 113.00 | 113.00 | 113.00 | 0.00    | 113 | 113 | 113.00 | 113.00 | 113.00 |
| 114  | 114.00 | 114.00 | 114.00 | 0.00    | 114 | 114 | 114.00 | 114.00 | 114.00 |
| 115  | 115.00 | 115.00 | 115.00 | 0.00    | 115 | 115 | 115.00 | 115.00 | 115.00 |
| 116  | 116.00 | 116.00 | 116.00 | 0.00    | 116 | 116 | 116.00 | 116.00 | 116.00 |
| 117  | 117.00 | 117.00 | 117.00 | 0.00    | 117 | 117 | 117.00 | 117.00 | 117.00 |
| 118  | 118.00 | 118.00 | 118.00 | 0.00    | 118 | 118 | 118.00 | 118.00 | 118.00 |
| 119  | 119.00 | 119.00 | 119.00 | 0.00    | 119 | 119 | 119.00 | 119.00 | 119.00 |
| 120  | 120.00 | 120.00 | 120.00 | 0.00    | 120 | 120 | 120.00 | 120.00 | 120.00 |
| 121  | 121.00 | 121.00 | 121.00 | 0.00    | 121 | 121 | 121.00 | 121.00 | 121.00 |
| 122  | 122.00 | 122.00 | 122.00 | 0.00    | 122 | 122 | 122.00 | 122.00 | 122.00 |
| 123  | 123.00 | 123.00 | 123.00 | 0.00    | 123 | 123 | 123.00 | 123.00 | 123.00 |
| 124  | 124.00 | 124.00 | 124.00 | 0.00    | 124 | 124 | 124.00 | 124.00 | 124.00 |
| 125  | 125.00 | 125.00 | 125.00 | 0.00    | 125 | 125 | 125.00 | 125.00 | 125.00 |
| 126  | 126.00 | 126.00 | 126.00 | 0.00    | 126 | 126 | 126.00 | 126.00 | 126.00 |
| 127  | 127.00 | 127.00 | 127.00 | 0.00    | 127 | 127 | 127.00 | 127.00 | 127.00 |
| 128  | 128.00 | 128.00 | 128.00 | 0.00    | 128 | 128 | 128.00 | 128.00 | 128.00 |
| 129  | 129.00 | 129.00 | 129.00 | 0.00    | 129 | 129 | 129.00 | 129.00 | 129.00 |
| 130  | 130.00 | 130.00 | 130.00 | 0.00    | 130 | 130 | 130.00 | 130.00 | 130.00 |
| 131  | 131.00 | 131.00 | 131.00 | 0.00    | 131 | 131 | 131.00 | 131.00 | 131.00 |
| 132  | 132.00 | 132.00 | 132.00 | 0.00    | 132 | 132 | 132.00 | 132.00 | 132.00 |
| 133  | 133.00 | 133.00 | 133.00 | 0.00    | 133 | 133 | 133.00 | 133.00 | 133.00 |
| 134  | 134.00 | 134.00 | 134.00 | 0.00    | 134 | 134 | 134.00 | 134.00 | 134.00 |
| 135  | 135.00 | 135.00 | 135.00 | 0.00    | 135 | 135 | 135.00 | 135.00 | 135.00 |
| 136  | 136.00 | 136.00 | 136.00 | 0.00    | 136 | 136 | 136.00 | 136.00 | 136.00 |
| 137  | 137.00 | 137.00 | 137.00 | 0.00    | 137 | 137 | 137.00 | 137.00 | 137.00 |
| 138  | 138.00 | 138.00 | 138.00 | 0.00    | 138 | 138 | 138.00 | 138.00 | 138.00 |
| 139  | 139.00 | 139.00 | 139.00 | 0.00    | 139 | 139 | 139.00 | 139.00 | 139.00 |
| 140  | 140.00 | 140.00 | 140.00 | 0.00    | 140 | 140 | 140.00 | 140.00 | 140.00 |
| 141  | 141.00 | 141.00 | 141.00 | 0.00    | 141 | 141 | 141.00 | 141.00 | 141.00 |
| 142  | 142.00 | 142.00 | 142.00 | 0.00    | 142 | 142 | 142.00 | 142.00 | 142.00 |
| 143  | 143.00 | 143.00 | 143.00 | 0.00    | 143 | 143 | 143.00 | 143.00 | 143.00 |
| 144  | 144.00 | 144.00 | 144.00 | 0.00    | 144 | 144 | 144.00 | 144.00 | 144.00 |
| 145  | 145.00 | 145.00 | 145.00 | 0.00    | 145 | 145 | 145.00 | 145.00 | 145.00 |
| 146  | 146.00 | 146.00 | 146.00 | 0.00    | 146 | 146 | 146.00 | 146.00 | 146.00 |
| 147  | 147.00 | 147.00 | 147.00 | 0.00    | 147 | 147 | 147.00 | 147.00 | 147.00 |
| 148  | 148.00 | 148.00 | 148.00 | 0.00    | 148 | 148 | 148.00 | 148.00 | 148.00 |
| 149  | 149.00 | 149.00 | 149.00 | 0.00    | 149 | 149 | 149.00 | 149.00 | 149.00 |
| 150  | 150.00 | 150.00 | 150.00 | 0.00    | 150 | 150 | 150.00 | 150.00 | 150.00 |
| 151  | 151.00 | 151.00 | 151.00 | 0.00    | 151 | 151 | 151.00 | 151.00 | 151.00 |
| 152  | 152.00 | 152.00 | 152.00 | 0.00    | 152 | 152 | 152.00 | 152.00 | 152.00 |
| 153  | 153.00 | 153.00 | 153.00 | 0.00    | 153 | 153 | 153.00 | 153.00 | 153.00 |
| 154  | 154.00 | 154.00 | 154.00 | 0.00    | 154 | 154 | 154.00 | 154.00 | 154.00 |
| 155  | 155.00 | 155.00 | 155.00 | 0.00    | 155 | 155 | 155.00 | 155.00 | 155.00 |
| 156  | 156.00 | 156.00 | 156.00 | 0.00    | 156 | 156 | 156.00 | 156.00 | 156.00 |
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| US Trust      | 1.83     | 140    | 54     | 50      | 51 1/2  |
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## Attali fights his corner on reforms

By Gillian Tett and Peter Marsh

MR Jacques Attali, the beleaguered president of the European Bank for Reconstruction and Development, yesterday demonstrated his continued determination to fight for his position by announcing that the bank's board of directors would meet in the next few days to discuss plans for a structural reorganisation.

Speaking to the American Chamber of Commerce in London, in his first public speech since the bank held its annual meeting in April, Mr Attali refused to give any details about his proposals for the reform, or confirm reports that the reorganisation would leave him in overall charge of the bank, insisting that "there will be no announcement until the board has discussed and decided".

He did concede that "the bank was in growing need of a better structure" and indicated that restructuring of the organ-

isation, which has grown to 600 people, was imminent.

The bank yesterday confirmed that Mr Attali had called the meeting for this week, but denied that this had been in response to reports of an imminent reshuffle or growing pressure on Mr Attali to resign in the wake of scandals over the bank's spending on entertainment and travel.

Mr Attali yesterday refused to confirm reports that Mr Ernie Stern, one of the three managing directors of the World Bank, was being considered for a senior role within the EBRD - though he joked that non-Europeans like Mr Stern were unlikely to be ever appointed president, since "the president of the bank has to be a citizen of one of the countries of the community".

One aspect of any change might be to appoint a new person to act as the bank's chief operating officer, leaving Mr Attali in charge of overall strategy but divorced from day-to-day administration.

## Ukraine treaty pledge to US

By Chrystia Freeland in Kiev

THE Ukrainian president, Mr Leonid Kravchuk, yesterday assured Mr Les Aspin, the US defence secretary, that the Ukrainian parliament would approve two critical arms treaties by the end of the month, despite opposition from MPs.

It will, however, be the parliamentarians and not the president who will determine the fate of the Strategic Arms Reduction Treaty, which covers 130 of the 146 inter-continental ballistic missiles on Ukrainian territory, and the Nuclear Non-Proliferation

Treaty, which would entrench Ukraine's status as a non-nuclear nation.

Since January, when the US administration began to intensify the pressure on Ukraine to fulfil its non-nuclear pledges, Mr Kravchuk has offered Washington repeated assurances that parliamentary ratification of the two key arms pacts is imminent.

However, as Mr Kravchuk's self-appointed deadlines have expired one after the other without any action from the legislature, the gap between the mood of parliament and the official government line

has become increasingly apparent.

Mr Dmytro Pavlychko, the influential chairman of the parliamentary commission on foreign affairs, told Mr Aspin that the Ukrainian parliament was leaning toward ratification of Start 1 but a postponement of accession to the NPT, thus leaving Ukraine with 46 ICBMs and a number of nuclear missiles associated with its strategic bombers.

"They [the US group] asked me when Ukraine would be ready to accede," Mr Pavlychko said. "I told them we could give up our last nuclear

missile when Ukraine's security was no longer in jeopardy."

Mr Pavlychko also suggested that, contrary to appearances, the call last week by the Ukrainian prime minister, Mr Leonid Kuchma, for the country to temporarily retain some of its nuclear missiles had actually strengthened President Kravchuk's position.

Mr Pavlychko said that the speech by Mr Kuchma, who has been locked in a bitter domestic power struggle with Mr Kravchuk, "has reinforced the president's image as a centrist".

## Rebels raise the red flag Key town falls in Azerbaijan

REBEL troops in Azerbaijan have taken control of the oil-producing former Soviet republic's second-biggest town after intense fighting, seizing four top government officials, Azeri and Russian reports said. Reuter reports from Moscow.

The troops, led by rebel commander Suret Guseinov, captured Gyandzha in the west at the weekend and hoisted the red flag of the former Soviet Union over several buildings, according to the Azeri news agency, Turan.

Reports said Mr Guseinov, a former army general sacked after defeats in fighting with neighbouring Armenia, had captured four top government officials, including the prosecutor-general and first deputy ministers of security and the interior. Russian TV said Mr Guseinov forced the prosecutor to sign an arrest warrant for President Abulfaz Elchibey.

Russia's Itar-Tass news agency said 60 people had been killed in Gyandzha in weekend clashes. It said the rebels had also taken over the southern town of Lenkoran, near the border with Iran. Government

troops and special security ministry troops had been sent to Gyandzha to crush the rebellion. It added, a defence ministry spokesman in the capital Baku, contacted by telephone, declined to confirm the reports.

The rebels distributed leaflets in the nearby towns of Yevlakh and Mingechaur calling on citizens to start a campaign of civil disobedience, the agency added.

The Transcaucasian republic has been volatile since it became independent after the break-up of the Soviet Union in 1991. Fighting with Armenian forces over the disputed territory of Nagorno-Karabakh has killed at least 2,500 people since 1988.

In neighbouring Georgia, a Russian-mediated ceasefire between government troops and rebels in the Black Sea region of Abkhazia appeared to have collapsed at the weekend. Hundreds of people have been killed in Abkhazia since last August when Georgian troops moved into the region to counter claims for more independence.

## Russian talks may lead to poll

By Leyla Boulton in Moscow

PRESIDENT Boris Yeltsin's constitutional convention is more likely to produce temporary legislation for early elections and a new division of powers rather than a new constitution.

"It's realistic, I think, and it could be the greatest success the meeting could achieve," said Mr Alexander Vladislavlev, one of the leaders of the Civic Union alliance, which has the support of many managers of state-owned factories.

The same conclusion emerged from remarks by other delegates as the convention, which is attempting to resolve Russia's power struggle, yesterday began discussing Mr Yeltsin's draft constitution in five separate working groups at the Kremlin.

Delegates opposed to Mr Yeltsin signed statements of protest after the president refused to let his chief rival, the parliamentary chairman, Mr Ruslan Khasbulatov, address the opening session on Saturday. Mr Khasbulatov

stormed out amid chaotic scenes.

Parliamentary leaders were huddled in the office of Mr Khasbulatov yesterday for talks on what to do next. In a growing rebellion, eight senior members of the 32-member ruling praesidium have complained about his dictatorial style and his failure to draw the right conclusions from Mr Yeltsin's referendum victory last month.

The problem is the Congress of People's Deputies, the only legitimate vehicle for adopting

a new constitution, which would see itself abolished.

Early elections, however, not foreseen by the present constitution, would fill a new assembly which could legitimately adopt a constitution.

An alliance of moderate nationalists claimed yesterday to have won the most votes in Latvia's first parliamentary elections since the Baltic republic regained its independence less than two years ago. However, many of its large Russian-speaking minority were excluded from the vote.

## Austerity move is first test for purged Forum

HUNGARY'S far right has made its long-awaited appearance in the open political arena.

"National-Christian" MPs yesterday began to turn their Hungarian Justice grouping into a parliamentary party after Mr Istvan Csurka and three other right-wing leaders were stripped of membership of the Hungarian Democratic Forum, the leading party in the ruling coalition, at the weekend.

Mr Csurka claimed yesterday that 17 MPs had signed up to the new party. Their defection from the Forum would reduce to single figures the parliamentary majority of Mr Jozsef Antall, the moderate conservative prime minister. The populist leader warned Mr Antall he was "playing with failure".

The first round of the game will come with the vote on emergency austerity measures to reduce the public sector deficit to 6.8 per cent of gross domestic product this year and put it on course for 5.6 per cent in 1994. The measures, part of a supplementary budget and essential if Hungary is to secure a credit agreement with the International Monetary Fund, were placed on the parliamentary agenda yesterday.

In the budget vote Mr Antall has also to contend with the restlessness of the party's two coalition partners. The Smallholders party is riven internally, and the Christian Democrats have taken to calling themselves the "internal opposition".

The government is reduced to banking on supporters' reluctance to force early elections at a time when opinion polls say the Forum would lose with a meagre 10 per cent of the vote. The prime minister has played on these fears by appearing to rule out a minority government and Mr Ivan Szabo, the finance minister, says that a defeat on the budget would lead to a government crisis, bringing forward elections due in May 1994.

That, however, for the time being remains something to concentrate minds. Mr Antall wants a full term to back his proudest boast: that his is eastern Europe's longest lasting and

Nicholas Denton on the Hungarian PM's crisis budget challenge, as former right-wing allies move to form a new hardline party

most stable administration.

But even if parliament acquiesces the public may not. The imposition of value-added tax on food provoked hunger strikes last year and the new budget plan proposes an increase in the rate to 10 per cent from 6 per cent.

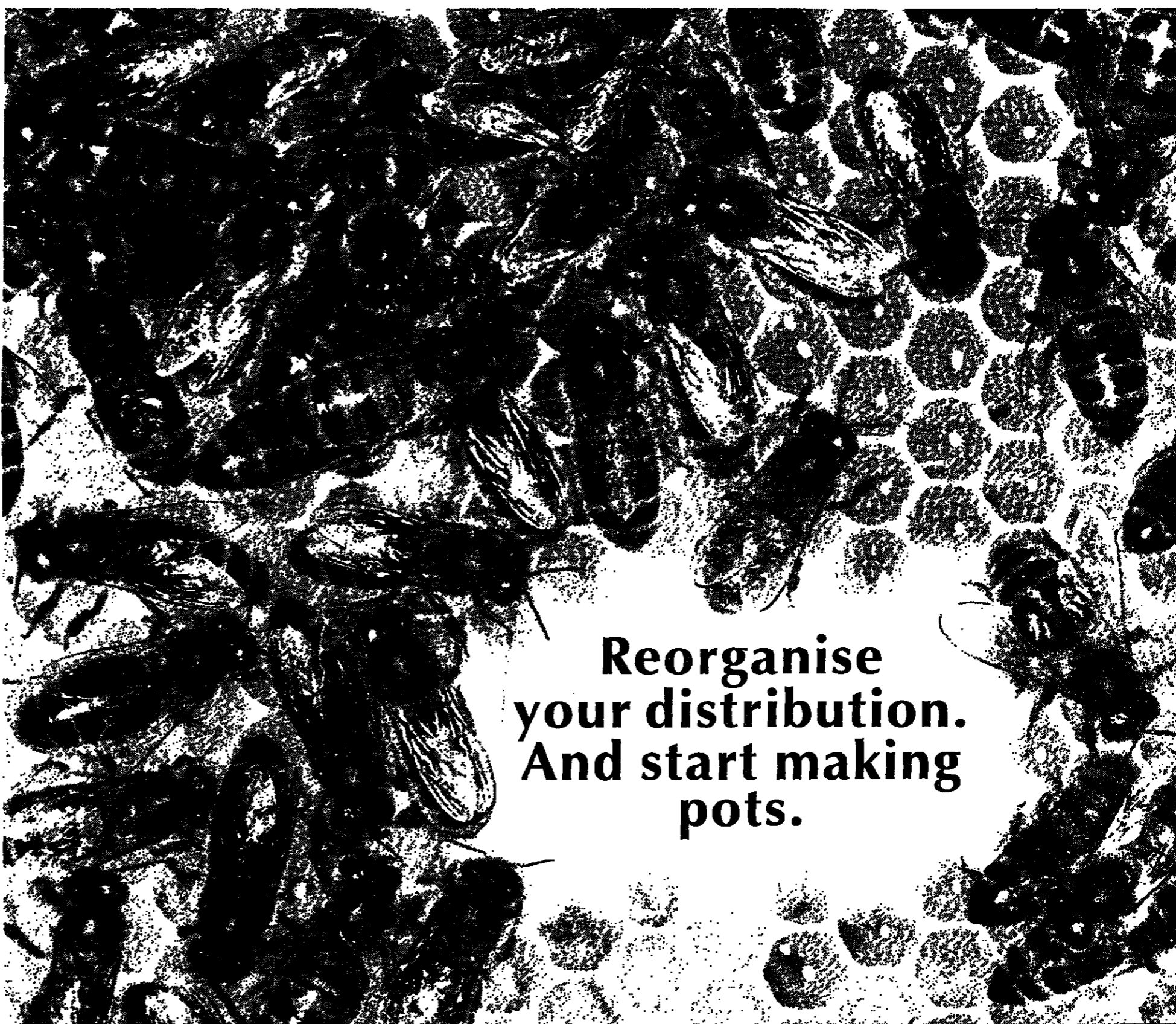
Nor does it appear that economic recovery could sweeten the pill. Recession in western Europe has depressed exports and the finance ministry recently announced that GDP, far from growing by up to 3 per cent as forecast, may in fact drop by that amount.

But Mr Csurka's support may turn out to have been more imagined than real. An unexpectedly large majority of the Forum's national delegates meeting at the weekend voted to expel Mr Csurka, and some of his 28-strong Hungarian Justice grouping have slipped back into the moderates' fold.

Turnout was also poor at a nationalist demonstration last week against the Trianon treaty, the 1920 peace settlement which cost Hungary two-thirds of its territory and left 3m Hungarians in neighbouring countries.

The jettisoning of the far right allows the Forum to "open a broad gate to society and public opinion", in Mr Antall's words. An aide believes that the appearance of a party on the right at least defines the Forum as the political centre.

Political virtue may therefore earn its reward but officials hope that fiscal virtue, may also bring electoral compensations. Mr Szabo believes Hungarians will not go down the way of "demagogues who build a broad and comfortable road that leads to hell".



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## Russia stalls over pact with the EC

By Layla Boulton in Moscow

RUSSIA is refusing to sign a partnership agreement with the European Community over the western satellite market as it wants better access to other EC markets.

Sir Leon Brittan, EC commissioner for trade, announced yesterday that he and the Russian government had clinched an agreement allowing Russia to conduct 12 commercial satellite launches between 1995 and the year 2000.

He said, however, that a partnership and co-operation agreement would not be initiated as expected during President Boris Yeltsin's meeting with EC leaders in Copenhagen later this month.

"The progress that remains to complete that task is still substantial," Sir Leon said, citing as examples artificially low domestic energy prices and the fact that Russian enterprises did not know what their costs were. In an important test case, the Commission will soon have to decide whether to slap punitive duties on aluminium exports from Russia.

The deal offered by the EC provides for regular political dialogue between the Community and the Russian leadership, provisions for inward investment, and most favoured nation status with regard to

services, including finance, computer technology, and telecommunications. The EC has a clear competitive advantage in these areas.

Existing curbs on Russian imports include quantitative restrictions on textiles and steel. Exports of enriched uranium are controlled by the need to receive licences for each deal.

As part of its attempt to re-join the international trading community, Russia has decided to apply for membership of Gatt, the free trade group whose secretary-general, Mr Arthur Dunkel, is due to visit Moscow this week.

Denmark, which holds the presidency of the EC, hoped an EC-Russia deal could be initiated at the Copenhagen summit in two weeks and is finalising arrangements for the visit of Mr Yeltsin, which should begin on June 19. Andrew Hill writes from Brussels.

But the Commission believes it would be unwise to rush into an agreement for political reasons before important problems of substance have been resolved. EC foreign ministers, meeting in Luxembourg today, will have to decide whether enough progress has been made to issue a political declaration of EC-Russian solidarity at Copenhagen, and make Mr Yeltsin's trip worthwhile.



Mickey Kantor: faces opposition

## White House warned over side agreements on labour

# US Nafta plan draws fire

By Nancy Dunne in Washington

CLINTON administration proposals designed to attract labour support for the North American Free Trade Agreement are instead drawing Republican and Democratic fire and a Mexican refusal to cede sovereignty over labour rights.

House Republicans told Mr Mickey Kantor, US trade representative, they would oppose Nafta if he negotiated strong side agreements on labour and the environment. They object to setting up tri-national bodies with power to investigate abuses and recommend trade sanctions as a last resort.

The Republicans accuse the administration of having lost the "vision" of a pact which would boost trade and investment, and warn that the side

agreements would channel "disproportional resources" into the creation of multilateral environmental and labour bureaucracies "with little accountability and sweeping mandates".

Last week several Democrat groups, members of the Alliance for Responsible Trade, listed objections to the US proposals as they apply to labour. The proposed standard allowing national enforcement of federal laws, they said, would not prevent a government lowering the standards of its laws to avoid being challenged for non-enforcement.

The alliance wants an independent secretariat, perhaps with members from non-Nafta countries, overseeing labour complaints. Unlike the administration's proposal, it would accept complaints from citizen groups, rather than having to get government to bring a case.

The administration's proposal that a 2/3 vote be required before a complaint is submitted to a panel "certainly ensures that the panels will never be used..." the alliance said.

But a Mexican official said: "An independent commission with enforcement powers will never be acceptable to us." He said labour was making impossible demands in an attempt "to scuttle the whole thing".

However, Dr Robert Cohen, a fellow at the Washington-based Economic Strategy Institute who has close ties to labour, insists that some unions would support Nafta if the side agreements were clearer. "They don't have to give labour absolutely everything that's been raised," he said. "But if there was attention paid to them, they could win some formidable support."

## Recorded music sales rise to tune of \$29bn

By Michael Skapinker, Leisure Industries Correspondent

THE international recorded music market grew 9.3 per cent to \$28.7bn (£18.6bn) last year, according to figures released by the International Federation of the Phonographic Industry.

Compact disc unit sales rose 18 per cent to 1.15bn. While the cassette market grew by only 2.8 per cent, tapes remained the most popular music format with 1.55bn sold.

The cassette is a particularly popular format in eastern Europe. The number of cassettes sold in Poland rose to 18m last year from 3m in 1991 while in Russia, where the federation gathered data for the first time, 100m cassettes were sold in 1992.

Despite the continued popularity of vinyl in South Korea and China, worldwide sales of long-playing records fell 9.5 per cent to 130m.

Recorded music sales in the US showed the biggest growth last year with sales climbing 14.9 per cent to \$8.9bn. In the UK, sales fell 1.6 per cent to just under \$2bn.

## Top committee tackles Thai motorway row

By William Barnes in Bangkok

THE THAI government has formed a high-level committee, headed by deputy prime minister Amnuay Viranvan, to try to settle a dispute over the contract terms of an almost completed \$1bn (£649m) elevated motorway.

The second stage of a toll road running through Bangkok remains closed despite

government demands that it open immediately because of "a national crisis" in the city's traffic system.

Bangkok Expressway, the consortium building the road, says it will open the road toll free for 90 days if the government agrees to settle its dispute within that time. It insists it will terminate the contract if there is no agreement by then.

The state-owned Expressway and Rapid Transit Authority responsible for the project has now effectively been cut out of negotiations and its governor has offered to resign.

Bangkok Expressway, led by the Japanese company Kumagai Gumi, has complained that the government has reneged on contract terms by cutting the toll by a third, not allowing the consortium to operate

the road for the agreed 30 years, and disputing revenue sharing arrangements.

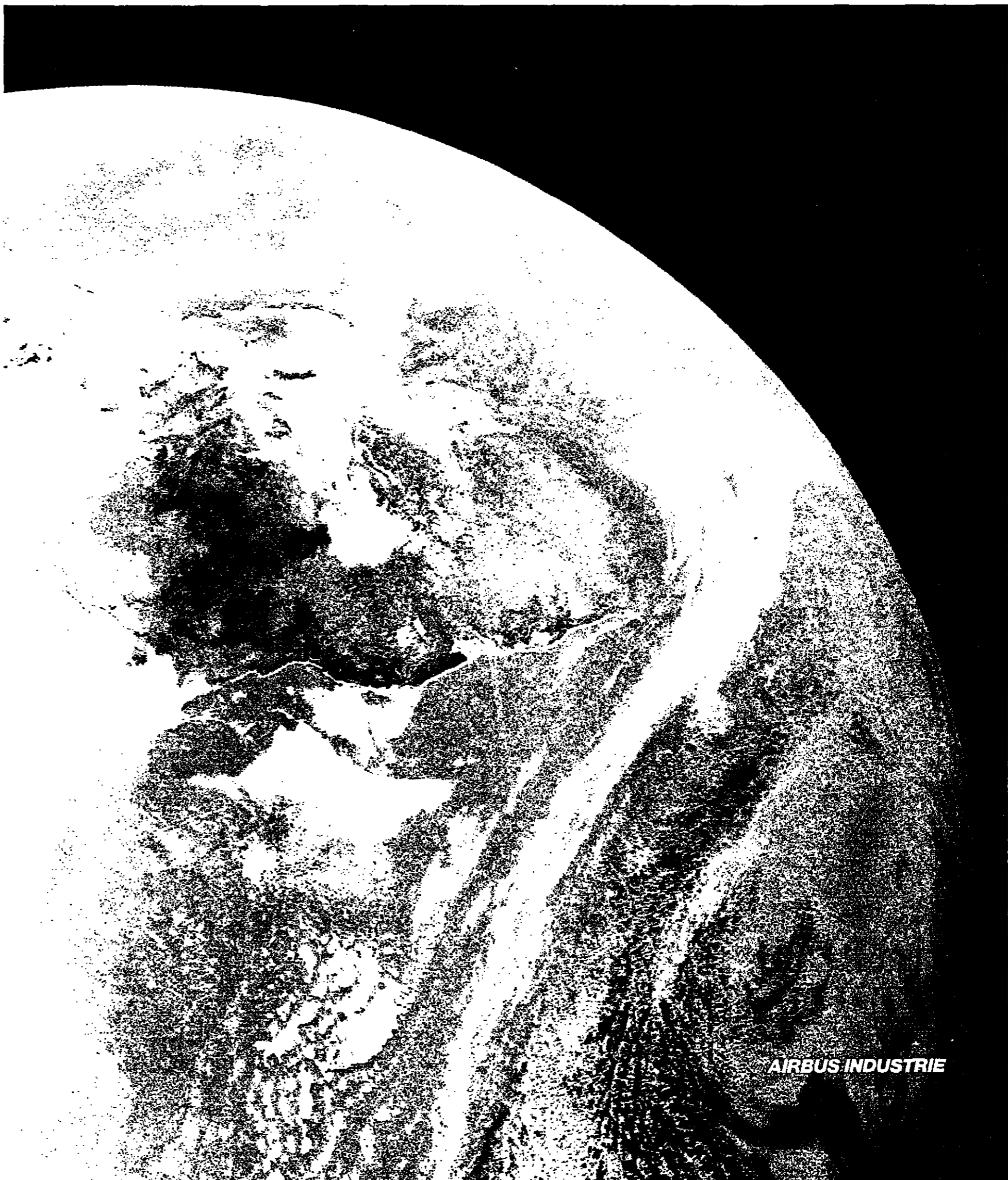
Last week Mr Tarrin Nimmanbalwinda, minister of finance, assured representatives of 31 international and 11 Thai banks that they "won't suffer". But a banker said it was worrying that even at this late stage the government had not addressed complaints head on. The lenders,

which have committed the equivalent of \$20bn (£12.7m), suspended loan disbursements to BECL in March.

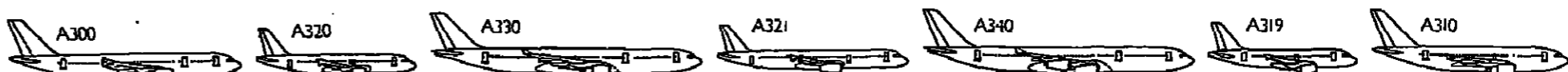
Meanwhile, Japan's Obayashi group has pulled out of building Bangkok's third stage expressway. Bankers close to the company say it was disheartened by frequent contract changes and the authorities' inability to agree on land compensation or fix a route.

## Taking the world view.

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## Guangdong set to put fire in 'little dragon'

Simon Holberton on province's growth in electricity capacity

SINCE Deng Xiaoping, China's pre-eminent leader, visited Guangdong 17 months ago the Communist party leadership of the province that borders Hong Kong has set itself the task of catching up with Asia's "four little dragons" - Hong Kong, Taiwan, Singapore and South Korea - in 20 years.

To do that, Guangdong will need a great deal more electric power, even today demand exceeds supply by at least 30 per cent and blackouts and brownouts are a feature of daily life.

The growth in installed electrical generating capacity in Guangdong has been rapid. In 1981, the province had just 2,800MW of installed capacity; by the end of 1992 it was 11,000MW.

Over the next 17 years the province hopes to increase capacity by a further 69,000MW to 80,000MW. By then it may have achieved installed capacity of 1KW hour per person, up from its current installed capacity of 0.16KW per person. Hong Kong has installed capacity per person of 1.42KW, Taiwan 0.85KW, and the US about 2.8KW.

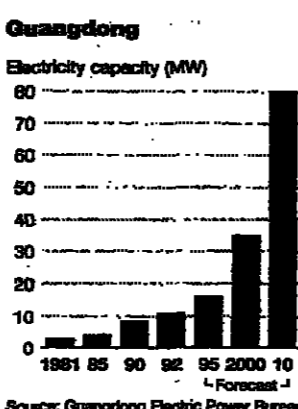
Guangdong's spending on power plants has grown from US\$679m (£441m) in 1989 to \$795m in 1991. Within that total, the share of imports has risen from \$220m in 1989 to \$430m in 1991. Larger expenditures are expected in the coming years, making the market for electrical generation equipment, transmission lines and computer systems to operate modern power plants one of the biggest in the world.

Western analysts in Guangzhou estimate the province's expenditure on power generation and related equipment will grow at an annual rate of nearly 40 per cent over the three years 1992-1995, and imports by more than 50 per cent.

Mr Michael Greene, a securities analyst with Warburg Securities in Hong Kong says: "The place is crawling with people trying to sell them electrical generation equipment. China has got to be the world's largest market for power generation equipment... ever."

Unlike many markets in China for imports, restrictive trade barriers for power generation equipment are few. China's domestic manufacturers, located mainly in the north-east of the country, are unable to supply Guangdong, making it dependent on foreign suppliers.

The province has the autonomy to use foreign exchange for imports of power equipment. According to one analyst in Guangdong: "Because of Guangdong's urgent need to import large amounts of elec-



trical generating equipment, import procedures are not a serious impediment.

Neither is ownership. Although electricity generation is technically a state monopoly in Guangdong, the local government has been prepared to allow significant foreign ownership of power plants. Shajiao B power station in Dongguan is owned and operated by Hopewell, a Hong Kong property company, and the Zhujiang power station, under construction in Guangzhou, is 50 per cent owned by New World Development, another Hong Kong property developer.

The province has also entered into inter-regional agreements with neighbouring provinces to develop hydro-electric power. For example, it has joined with Guizhou, Guangxi, and Yunnan to develop hydro-electric facilities on rivers running through their territory.

Guangdong also has plans to increase the amount of electricity generated by nuclear power, on current plans more than 20,000MW by 2010.

Mr Chen Wen Hu, deputy chief of section in the planning department of Guangdong's Electric Power Bureau, says: "By 1995 Daya Bay should be producing 1,800MW, but 70 per cent will go to Hong Kong and only 600MW to Guangdong. We have hopes to build three more nuclear power plants. We have finished the preparatory work for the second nuclear plant and in 2000 the first phase - 1,000MW - should begin."

This would still leave nuclear producing less than 30 per cent of the province's needs by 2010. From now until then, the local authorities have thermal power stations planned, or under construction, which will add more than 50,000MW of installed capacity to Guangdong's grid.

One problem is the quality of the coal it receives from northern China. Although the price of coal was deregulated last year - prices have risen nearly 30 per cent since 1991 - the quality and the time taken from mine to power station have not improved.

## NEWS: UK

# South Korean manufacturer picks Ulster

By Our Belfast Correspondent

CARMEN Electronics, the South Korean car radio manufacturer, announced yesterday it is to create 257 jobs at a new factory in Northern Ireland.

The company is investing \$9.5m at a site being developed by the Industrial Development Board at Dungannon, Co Tyrone, an unemployment blackspot (map opposite).

Carmen, whose equipment is sold in the UK under the Goodman name, will be making car stereos at the plant and expects to complete its local recruitment by 1996.

The IDB said it had secured the project in the face of stiff competition from several other European companies.

Mr Robert Atkins, Ulster's economy minister, said the investment will create significant new employment and

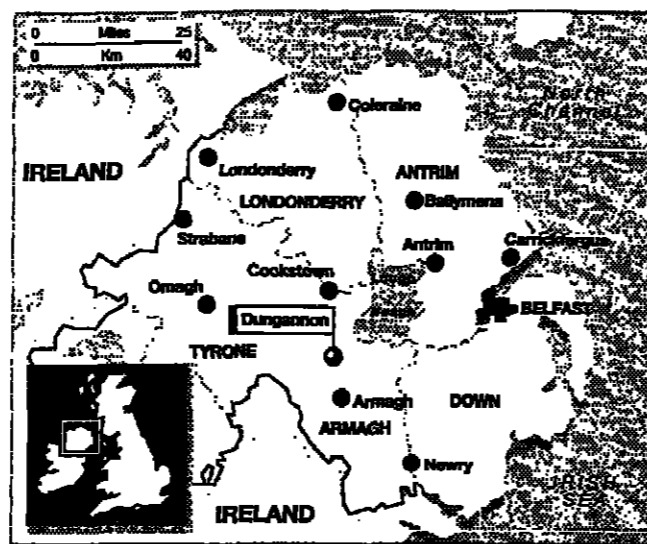
skills opportunities in the area.

He also said Carmen was attracted to Dungannon partly because of the successful power sharing arrangement on the local authority, as well as low costs and good infrastructure.

"It is also an excellent example of how cohesive local involvement can assist economic development, as councillors and other community representatives from this area, working in partnership with the IDB, were an important factor in Carmen's decision to come to Dungannon."

Unionist and Nationalist councillors introduced a power sharing arrangement on the local authority several years ago whereby the mayor's post is rotated every six months.

Mr K H Choy, president of the company, said it had decided to locate to Northern



Ireland because it provided a cost-effective base to expand into the European Community and develop sales in eastern Europe.

"We selected Northern Ireland as our European manufacturing centre because it provides an ideal springboard from which to expand our already substantial field base throughout the EC," he added.

Carmen is part of a manufacturing group started by Mr Choy in 1985 and group sales last year amounted to \$68m.

Vincent Currie, leader of the mainly-Catholic SDLP on the

council, said: "We decided to forget about internal squabbles and to co-operate, work together and concentrate on the issues that really concern us - unemployment, housing and jobs."

The Carmen factory will be completed by the end of August and production will begin in October.

Carmen is the second major Korean company to move to Northern Ireland.

Details of a third, much bigger, project involving a Korean firm are expected in the next few months.

# Heathrow may lose European rank, warns BAA

By Paul Betts, Aerospace Correspondent

BAA, the privatised UK airports operator, yesterday warned that London's Heathrow airport risked losing out to its main European competitors, including Paris, Frankfurt and Amsterdam, unless a proposed \$900m fifth terminal was built earlier than planned.

Sir John Egan, BAA's chief executive, said he hoped the new terminal would be completed about six months ahead of schedule to avoid a capacity crunch at Heathrow.

Although the new terminal is at present not due to be completed until late 2001, Sir John said the pace of passenger growth at Heathrow could start outstripping current terminal capacity by 1998.

Passenger volumes at Heathrow have grown by 8 per cent from 42m to 45.5m during the past 12 months.

Sir John said unless the new terminal was built ahead of schedule, passengers risked facing increasing discomfort as the airport became more congested.

"The inevitable result will be that many airlines and passengers will choose to fly not to or through London but to our European competitors," he warned.

A public inquiry into the building of the new terminal is expected to start at the end of next year. BAA would like to see the entire planning inquiry speeded up to hasten development.

Sir John also announced plans for a new \$20m flight connection centre at Heathrow designed to make it easier for passengers to change aircraft and terminals by providing smooth connections between flights and streamlined check-in, security, immigration and customs controls.

The new centre will be built between Terminals 1 and 2 and will include a range of shopping and eating facilities as well as a fitness centre, beauty clinic, business facilities and a video games centre.

The decision to build the new complex reflects recent growth in passenger transfer business at Heathrow. Transfer passengers now account for 30 per cent of Heathrow's total annual passenger volume compared with 22 per cent three years ago.

The facility is expected to open in October 1994 when BAA hopes it will encourage more passengers to transfer planes at Heathrow rather than choosing another European airport.

Results, Page 24

## Britain in brief



## Directors fear state debt will crush upturn

Economic recovery could be crushed unless the government acts urgently to eliminate up to \$30bn of public sector debt, according to the Institute of Directors.

Calling for a "revolutionary approach" to government spending, Mr Peter Morgan, IoD director general, said last night that the £50bn deficit was so huge that "no tax increases of acceptable proportions could come near to dealing with it".

He told a conference of businessmen that the scale and rate of growth of public spending constituted the economy's most serious problem.

## Managers make airport offer

Management and employees yesterday submitted a bid to buy East Midlands International Airport at Castle Donington, central England.

This brought to four the number of bidders for the airport, whose future ownership has been in doubt since, in early 1991, Derbyshire County Council signalled its readiness to dispose of its 44 per cent stake.

KPMG Peat Marwick, accountants, whose Nottingham office is handling the sale, refused to disclose the identity of the other bidders. But Regional Airports has publicly disclosed its interest and it is thought that Lockheed, the US group, and National Express, the UK coach company, may have made bids.

## Unions protest at Ford imports

Unions protested to Ford, the car producer, over the import to the UK of 2,000 Fiestas from a Ford plant in Spain. The AEU engineering and electri-

cal union said it was "shocked" by the imports, which followed the shedding of 4,000 Ford jobs in the UK last year. The TGWU general union said the company had "let too many people go" at the Dagenham, Essex, plant which makes Fiestas. The unions added that they had been assured by the company that no cars would be imported.

Ford said it was importing the cars because the assembly line at Dagenham was being updated. The modernisation work coincided with a projected increase in demand for Fiestas in the UK this summer.

## Talks at BA postponed

Talks between British Airways management and white-collar members of the GMB general union working at London's Gatwick Airport have been postponed and are now due to be held today. The GMB has warned that travellers could face another airport strike this week if negotiations on pay and conditions break down.

A similar dispute with the TGWU general union led to a 24-hour stoppage last week and disruption of most of BA's flights from Gatwick and Heathrow. An agreement between the two sides came too late to avert the stoppage.

## Enron to run gas project

Oliver Resources, the south Wales energy company, said it had farmed out a working interest and operating control of its coal-bed methane recovery project in the south Wales coal field to a UK subsidiary of Enron, the US oil and gas company. Enron has taken a 50 per cent interest in the two exploration licences, which cover an area of 670 sq kms encompassing a large part of the south Wales coal field.

## Morale declines at Royal Mail

Morale among Royal Mail employees has reached an all-time low, with nearly 70 per cent of the workforce reporting they are unhappy at work, according to an internal employee opinion survey.

# Sea-change in top job market

Michael Cassell discovers that the 1980s boom may never return

HEADHUNTER Nigel Humphreys has a warning for top managers: "We are not going to return, this side of the millennium, to the sort of job market conditions which professional and managerial people took for granted in the 1980s."

Mr Humphreys, managing director of Tyzack Accord, is trying to find an explanation for the latest dive in confidence over job prospects among the highest levels of British management.

Around 100,000 people may have lost their jobs in the City of London alone since the recession began and, by the end of last year, nearly 300,000 professional and managerial people were out of work.

But the worst is supposed to be over, with recession giving way to a slow and hesitant recovery.

Yet fears of redundancy have

in the last few weeks been rising again among many top-ranking corporate managers and other professionals, according to the results of a Mori survey published last week by the Financial Times.

Mr Humphreys, like many others in his profession, finds the most recent loss of confidence initially puzzling.

"There has been a quite definite surge in recruitment activity at management level and it is not just people already in jobs moving to new ones. Previously unemployed executives are again in work," he says. But he also acknowledges that there has been an important sea-change, with businesses adapting to what he calls the "new normality".

Mr Humphreys adds: "Managers in highly competitive markets will need skills and abilities different from those which sufficed in the boom years of

the 1980s. If they cannot adapt, they will not easily fit in."

"It is no good believing that when companies, this time, emerge from recession, they will explode like corks out of a champagne bottle. There is going to be a great deal of care and caution when hiring - and retaining - at all levels."

Neither are managers likely to be required in the same numbers. A survey by Reed Personnel Services suggests that managers will be in least demand as business conditions improve, thanks to fundamental corporate restructuring already undertaken. The outlook is for a surplus of middle and senior managers over the next five years.

"An awful lot of job losses are simply not directly linked to the recession," according to Mr Paul Charlesworth, development director of Coutts Career Consultants.

"There has been plenty of delaying and restructuring, leaving behind a core of people who are promised continuing job security but who do not necessarily believe it."

Companies, he reports, are also increasingly moving towards a pattern of short-term, interim management for filling posts. The increasing tendency to contract out important elements of the business also raises the prospect of fewer in-house jobs.

However, Mr Peter Trigg, managing director of Drake Beam Morrin, an outplacement specialist, believes the jobs outlook for managers has improved. But he understands why confidence about personal job prospects remains fragile.

DBM does have some good news for executives. A survey of its own clients shows that most find another suitable job within seven months.

# EuroBusiness

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## MONDAY

07:45 European Business Today† – Daily news, company results, market moves and boardroom interviews.  
12:30 West of Moscow †  
22:30 European Business Today†

## TUESDAY

07:45 European Business Today† (22:30)  
13:15 West of Moscow\* (18:15)  
08:15 FT Reports\* (15:45, 23:45)

## WEDNESDAY

07:45 European Business Today† (22:30)  
21:30 Financial Times Reports† – The Spanish Election? What the result means to business.

All times are CET

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## THURSDAY

07:45 European Business Today† (22:30)  
08:15 West of Moscow\* (15:45, 23:45)  
13:15 FT Reports\* (18:15)  
20:00 Financial Times Reports • (01:00, 05:15)

## FRIDAY

07:45 European Business Today† (22:30)

## SATURDAY

05:30 Financial Times Reports •  
08:30 Financial Times Reports †  
11:15 West of Moscow • – Improving Climate? We hear from the CBI about their new survey of business prospects in the region. (& 22:15, 02:15, 05:15)

## SUNDAY

13:00 Financial Times Reports • (20:00)  
19:00 Financial Times Reports †  
22:30 West of Moscow †

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## ABB unit to cut 900 train making jobs

By Andrew Baxter and Paul Cheeseright

ABB TRANSPORTATION, the UK's biggest train builder, said yesterday it is making nearly 900 of its 6,134 employees redundant across its operations at York, Derby and Crewe because of a severe reduction in UK orders.

The announcement underlines the plight of the UK's railway equipment industry, which is running out of orders because of the uncertainty over rail privatisation, and what it sees as under investment in the sector.

The Railway Industry Association has said that privatisation puts about half the equipment industry's 30,000 jobs at risk immediately, and all of them in the long term.

The immediate cause was the news late last month that ABB Transportation had lost the battle for a £36m order from Strathclyde Council. Mr Bo Södersten, ABB Transporta-

tion's hard-driving managing director, warned that the company would be assessing its requirements.

Brel, the old workshop arm of British Rail, was privatised in 1988 and since last year has been 85 per cent owned by Asea Brown Boveri, the Swiss-Swedish engineering group. ABB said yesterday it had transformed the subsidiary into a "first-class company".

But the York plant, on which £50m has been spent since privatisation, is due to run out of work next May when it finishes the last of a £140m order for Networker trains from Network SouthEast.

Mr Södersten has warned that the plant could close if it does not win any significant orders this year. Its future could depend on winning a £150m order from BR for more commuter trains which may be awarded in August.

Mr Södersten said yesterday: "We see great long-term possibilities for our products and services, both here in the UK and overseas, but it is essential that our domestic customers are in a position now to continue a programme of steady order placement if Britain's railway industry is to survive."



Pickets at the Timex, Scotland, plant show their anger as replacement workers arrive yesterday morning

## Scottish trade unions appeal for overseas support in Timex dispute

THE SCOTTISH TUC, the trades union body, yesterday told pickets outside the Timex factory in Dundee, Scotland, that it was asking unions and political parties overseas to support the protest by boycotting the company's products.

Mr Bill Speirs, deputy general secretary of the Scottish TUC, told a crowd at the plant that the STUC was planning to send messages to labour groups worldwide calling for a boycott.

Mr Speirs was speaking as demonstrators picketed noisily outside the plant, as they have done throughout the four month dispute.

There was no repeat of the violence which has marked previous demonstrations. The STUC's move could antagonise leaders of the AEEU engineering union, who are hoping to negotiate a solution to the dispute.

## Trouble brews as beer follows Europe's recipe

Philip Rawstone on why brewers are cutting strength and raising prices under the new duty code

NATIONAL brewers came under fire yesterday for reducing the alcoholic strength of many of their beer brands to ease the impact of a new system of duty.

The Brewers' Society claimed that the new system - which replaces the 113-year-old method of charging duty at the pre-fermentation stage of production with a tax on the alcoholic strength of the finished product - would increase over all duty by 564m, or 3 per cent, a year.

Customs & Excise insisted that the new system would not raise the overall revenue burden on the industry. Officials are examining the calculations and said that adjustments would be made in the next budget if necessary.

Consumer groups attacked the move which comes at a time when beer prices are again being raised above the rate of inflation.

Bass, the country's leading brewer, has announced its wholesale beer prices will be increased by an average 53.62 for a 36-gallon barrel, a rise of 3.58 per cent.

Carlberg-Tetley is expected to increase prices by an average 3 per cent. Mr Andy Sangster, research officer for the Campaign for Real Ale, condemned the reduction in the strengths of some beer brands as a cover for higher prices.

"Ford does not alter the specifications of its cars when taxes go up," he said, "and we see no reason why brewers should start fiddling the strength of their beers. It shows a lack of respect for their products."

Ms Ruth Evans, director of the National Consumer Council, said: "If brewers are cutting the alcohol content of their beers, they should be advertising this fact widely, not trying to slip weaker beer past their customers without telling them. We are not against weaker beers in principle - but consumers who prefer the stronger variety will feel that they are being charged the same price as before, for less."

Of the five national brewers, only Whitbread does not intend to make any changes to the strength of its beers. The tax effects on its portfolio would be roughly neutral, the company said.

Bass, which estimates that the changes will increase taxes on its beers by more than £20m a year, is to reduce the alcohol by volume (abv) percentage of about a score of its brands.

The original gravity of most of the affected brands will be raised to preserve taste and flavour, the company said.

National brewers had been expected to bear a relatively higher burden of duty after the introduction of the new system on June 1 because of the higher strength lagers and ales in their portfolios.

Though the new scheme was planned to raise the same amount of revenue from the industry, it was clear from the outset that these beers would attract more duty and others would be less heavily taxed.

The national brewers are also suffering the loss of benefits they have drawn in recent years from the old system which gave a 6 per cent duty free production allowance for wastage. Wastage in many of the larger brewery operations is less than 2 per cent because of improvements in brewing technology and efficiency.

Complaints from smaller brewers about the advantages the old system gave the nationals were among the reasons for the change. But the switch to end-product duty was also encouraged by the creation of the European single market.

Other EC countries charge duty on the finished product.

## Lloyd's could attract '£500m' new capital

By Richard Lapper

LLOYD'S OF LONDON could attract up to £500m in fresh "incorporated" capital by the beginning of next year, according to an official working on a new rulebook for corporate investors at the insurance market.

At the end of April Lloyd's announced that it was seeking to attract new corporate investment to compensate for the recent fall in the number of Names, the individuals whose assets provide the market's capital base.

A draft of the rulebook, which sets out the legal, accounting, regulatory and tax implications for "incorporated Names", should be sent to Lloyd's agencies by the end of this month, with a definitive version set to be completed by mid-summer.

Lloyd's has already decided to modify its plans to auction capacity for incorporated Names announced last year. In a letter to market practitioners last week Mr David Rowland, chairman, said it was "inappropriate" to continue with these plans.

By Richard Evans

INITIAL reaction from bankers and City of London businessmen has been largely favourable to a Corporation of London proposal that non-essential traffic might be barred from the core of the City as an anti-terrorist measure.

The plan, the most radical element in a package now being drafted, is still at the blueprint stage and will be put out to public consultation later this month. If accepted, it could be in operation by the end of the year.

Mr Michael Cassidy, chairman of the corporation's policy and resources committee, said that two large terrorist bombs in 14 months had not undermined the City as Europe's

leading financial centre, but firms had to be reassured.

Corporation officials led by Sir Francis McWilliams, the Lord Mayor, have held meetings with over 400 City institutions and locally based companies to discuss improved security. Most have supported a vehicle ban, although some have argued it would create too much disruption and would give too great a propaganda coup to the IRA.

Mr Cassidy argued that as more than 90 per cent of City workers commute by train and walk to offices, there was support for a car ban, if public transport could be improved.

Sir Andrew Hugh Smith, chairman of the Stock Exchange, has given pedestrianisation qualified backing,

provided access for vehicles could be maintained for normal business purposes.

The restrictions planned by the corporation are only likely to apply to a few hundred square yards at the heart of the City, covering the area around the Bank of England, the Stock Exchange, Mansion House and the NatWest Tower, although some bankers want them to cover the whole of the Square Mile.

Access would be limited to buses, taxis and a small number of specially licensed vehicles, although temporary licences could be granted for anyone giving a good reason for driving through the City.

Any vehicles without a licence would be stopped at one of about six check points.

The corporation began its detailed examination of security after the Bishopsgate bomb in April placed in an abandoned tipper truck. A year ago 100lbs of explosives packed into a car wrecked the Baltic Exchange. Both bombs caused millions of pounds of damage.

Anti-terrorist measures already in hand are the removal of all litter bins in the City until they can be made bomb proof.

London's position as a major international financial centre is putting heavy pressure on the authorities and police to devise a policy based on a deterrent rather than containment. A third big bomb attack could make some foreign companies think about relocating elsewhere in Europe.

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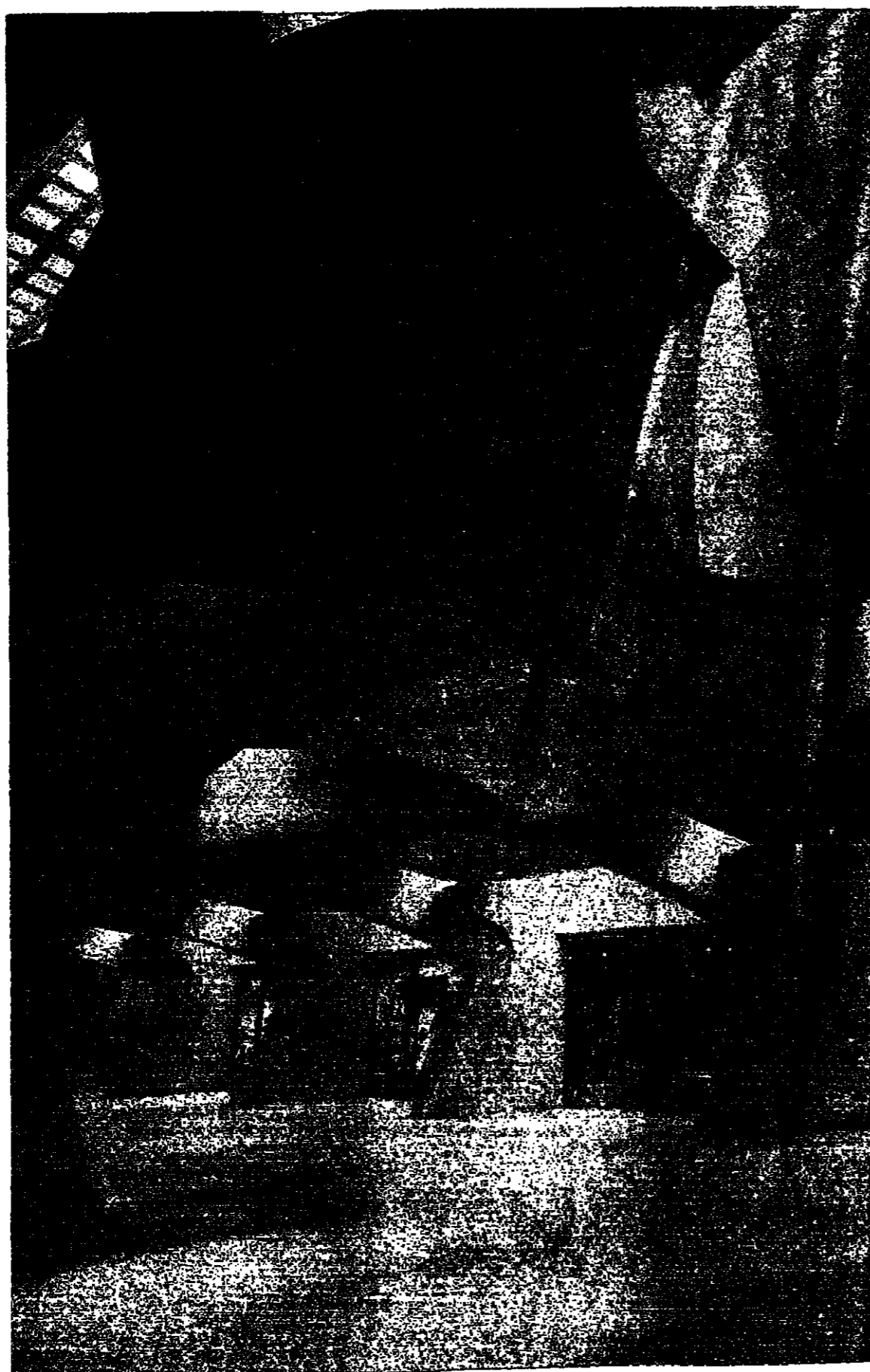
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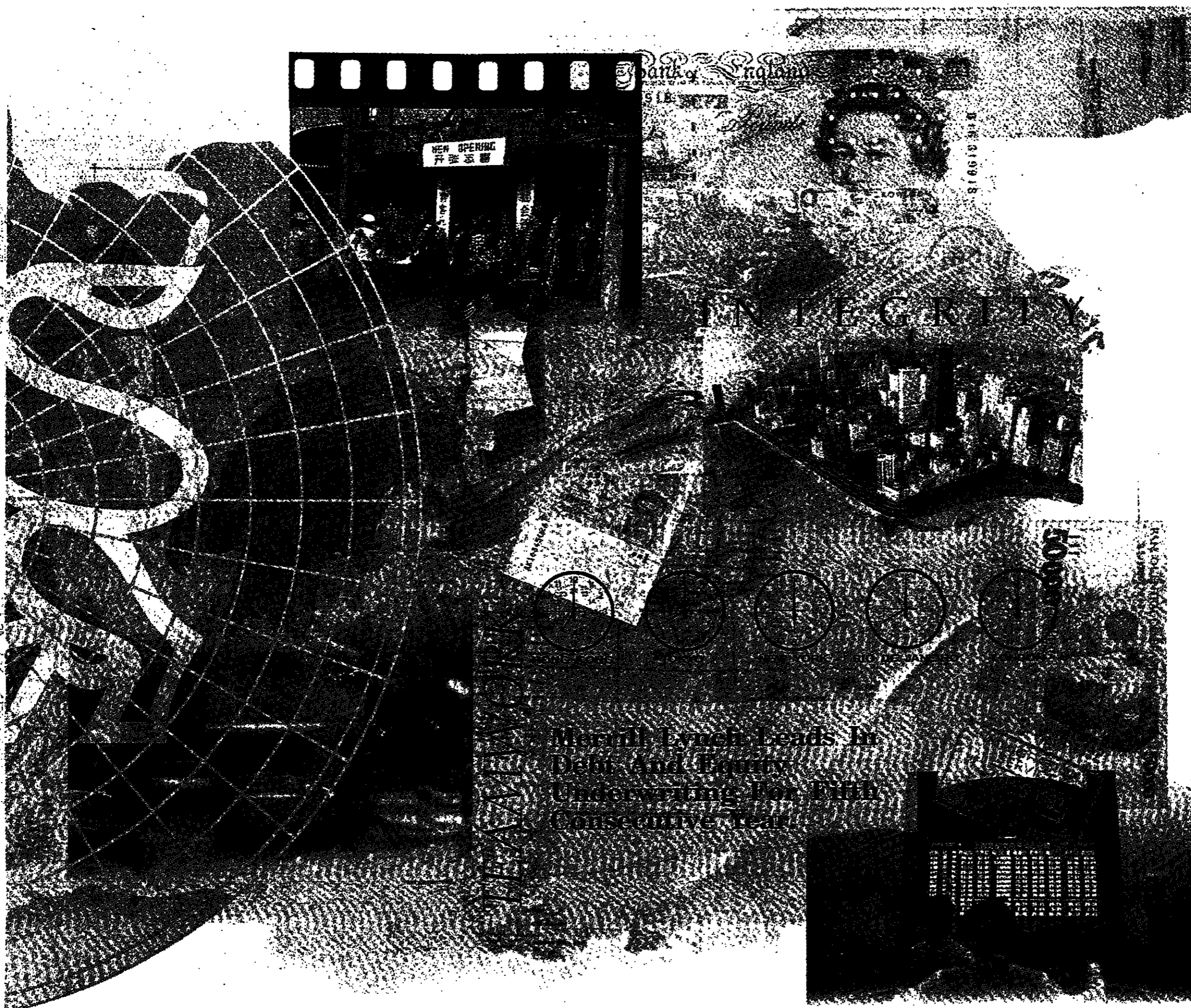
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## TECHNOLOGY

Four years after the Exxon Valdez disaster, the route to safer tankers is not all plain sailing, says Hugh Carnegie

# Slowly acquiring a thicker skin

Standing on the vast deck of a 300,000-tonne supertanker and peering into one of its cavernous, 27m-deep cargo holds, you quickly form a chilling impression of the enormous quantity of crude oil that can be spilled into the sea when such a large ship is ruptured.

As accidents such as the foundering of the Braer off the Shetland Islands in January this year and the running aground of the Exxon Valdez off Alaska in 1989 showed, the results can be calamitous for the local environment.

Next month, however, a significant step will be taken in the quest for safer, or at least safer, oil tankers. Under new rules made by the International Maritime Organisation (a UN-backed body that sets safety standards for world shipping), all new supertankers commissioned from that date will have to be double-hulled - that is, have a two-layer outer skin that will make

the oil carriers more resistant to collision or grounding.

The rule seems to make sense. A Very Large Crude Carrier, or VLCC, is a gigantic, internally sectioned, flat-bottomed steel barrel with a large engine at the stern and a relatively small superstructure to house the computers and the handful of humans required to load, sail, manoeuvre and discharge it. Doubling the outer casing of the barrel should significantly increase its ability to withstand puncture.

But the move to develop "environmentally-friendly" oil tankers is not all plain sailing. First, some shipowners say double-hulled tankers may not reduce spillages in big supertanker accidents. Second, they are more expensive to build and operate than traditional single-hulled, or even double-bottomed, tankers, which has made many oil companies and shippers reluctant to charter them.

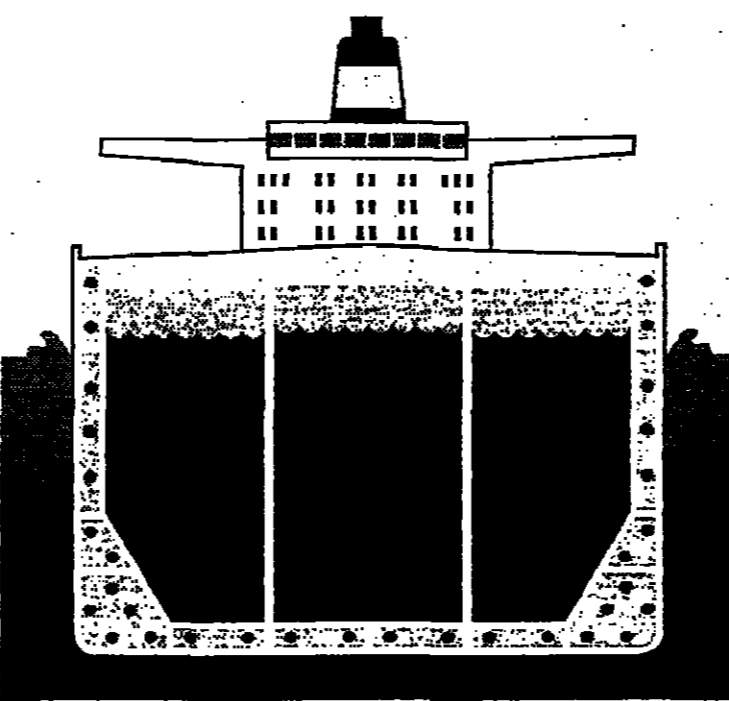
The Odense Steel Shipyard,

owned by the big Danish group A.P. Moller, this year delivered the world's first two double-hulled VLCCs, out of six it is building for Maersk Tankers, another A.P. Moller company. The 300,000-tonne Elso Maersk and Elizabeth Maersk carry their ballast in the minimum 3m-wide space that runs between outer and inner hulls.

The builders say the 344m-long ships are designed to have levels of resistance to breaches and to "raking damage" - the opening of the bottom of the ship - up to 25 per cent greater than IMO specifications. But no-one is arguing that the advent of the double-hulled tanker will mean an end to supertanker disasters. In fact, says Ola Lorentzen, chief executive of Sweden's ICB Shipping, it is doubtful that oil spills would have been avoided in any of the world's most notorious tanker accidents if the ships had been equipped with double hulls.

"In the case of the Exxon Valdez,

Double-hulled tanker



it wouldn't have made any difference if it had been double-hulled, according to what I understand from the experts," he says. His point, not denied by shipbuilders, is that even a double-hulled ship could not withstand the forces involved in driving fully laden onto rocks.

Lorentzen says the new regulations on double-hulled ships as deriving mainly from political demands for action after spectacu-

lar accidents. He wonders whether the extra money to be spent on building double-hulled tankers - which are 15 to 20 per cent more expensive than a standard single hull tanker, costing around \$55m (\$55.3m) - could be better spent on other anti-pollution measures.

According to A.P. Moller, tanker accidents account for only 5 per cent of all oil pollution at sea. Tanker operations account for 7 per

cent, while 14 per cent comes from other shipping and 61 per cent from industrial waste. At present, only 14 of the 51 VLCCs under construction worldwide are double-hulled, but the new regulations mean that soon any replacements for the world's 450-strong VLCC fleet will have to be to the new specification.

This brings up another complaint that unites shipbuilders and operators - that double-hulled tankers are, in effect, discriminated against. Many charges, such as port fees, are levied on the volume of a ship. A double-hulled tanker inevitably has greater volume than a single-hulled vessel and can cost up to 20 per cent more in port fees.

The complaint extends to single-hulled tankers with segregated ballast tanks. Segregated ballast tanks were made compulsory on all tankers built after 1980 to cut down on pollution from the flushing of oil-contaminated ballast - a leading source of oil pollution.

A growing number of old tankers is likely to be de-commissioned in the next few years because of the difficulty of meeting increasingly stringent standards. Nevertheless, more than half the VLCCs now at sea were built in the 1970s and there remains a financial incentive to operate old "dirty" tankers rather than more modern ships.

A major part of the oil industry is still looking for the cheapest freight, regardless of the environmental aspects," complains Tommy Thomsen, vice-president of A.P. Moller. "So far, society has chosen not to reward environmentally-friendly tankers."

## A super PC from H-P

While many companies are talking about creating vast new markets with pocket-sized computerised gadgets that are variously called "personal digital assistants" or "information appliances", Hewlett-Packard has this week introduced a "super-portable" personal computer that addresses the needs of a broad range of "mobile professional" computer users.

The H-P Omnibook 300 is a lightweight and compact PC with a full-size keyboard and screen and long battery life. It is bigger than a "palmtop" computer, but lighter than a "notebook" PC.

It is a 386-powered PC that comes fully loaded with Microsoft Windows, Word and Excel software, as well as some personal productivity and communications software. Weighing in at 2.9lb and measuring roughly 11in by 6.5in and 1.5in thick, the Omnibook runs for five to nine hours on four standard AA batteries.

H-P is offering two models: one with a built-in 40MB hard drive with a list price of \$1,950 (£1,280) in the US and the other with solid state data storage that will sell for \$2,375. Extras include an internal modem and a power adapter. Neither of the Omnibooks includes a floppy disk drive, but software or data can be downloaded from a desktop PC via a serial port link that is expected to become standard in desktop computers of the future.

Special features of the Omnibook include a "pop up mouse", that springs out of the side of the computer. It behaves like a desktop computer mouse, but because it does not require a flat surface it can be used, for example, in the limited confines of an aircraft "tray table". H-P has made some compromises to minimise power consumption. The screen is monochrome and the data storage capacity is lower than that of most notebook computers. This is a briefcase-sized PC that overcomes the limitations of existing PCs.

Louise Kehoe

## Part of the office furniture

Microsoft is unveiling a new partnership, writes Geof Wheelwright

Imagine being able to operate all the equipment in your office from one screen, or each entertainment product in your home from a single remote control device.

Instead of pressing different buttons on different machines for different functions, these could all be connected to save users' time, money and the frustrating need to remember which machine does what and how.

Companies in the electronics, computer, office equipment and entertainment industries have been thinking along these lines for some time. Now that wireless communications look like replacing endless lines of cable, such ideas have been given a new impetus.

Tomorrow, Microsoft, the dominant US software company, will take a significant step toward the future linking up of electronic equipment by unveiling new partnerships with office equipment makers to produce photocopyers, facsimile machines and laser printers controlled by the company's software.

Microsoft's contribution will be a new office equipment "operating system" that will let users control this equipment by merely pointing at pictorial representations of their functions on a built-in computer screen. The company has been working on this technology for more than four years and it similar to the company's existing Windows software.

The software operating these new devices will, however, include the ability to be controlled by Microsoft Windows when connected to a personal computer. It will also be "multi-tasking" so that it can allow the office equipment in question to handle more than one job at once.

One of the partners in this deal - Hewlett-Packard - says it can foresee the day when this technology will allow it to produce printers with no external switches, buttons

or controls. All of these tasks will be handled by software and controlled by a PC running Windows. The devices, to be produced initially under Microsoft's new office equipment partnership, however, will be capable of operating without a PC connection, although a small, PC-style flat screen and computer-generated "icons" will be used to provide the control. Other partners are Compaq, Ricoh, Minolta, and Ericsson.

These partnerships are only one element in the long-term strategy outlined by Bill Gates, the head of Microsoft. He wants to put Microsoft technology in almost anything that uses electricity.

His intention is to make Microsoft software an integral part of office equipment.

Gates also foresees Microsoft's involvement in the design of spe-

cialist software for "broadcast" information to and from portable computers over wireless networks, personal information management applications for use on hand-held computers, electronic and voice mail from portable systems and the transfer of data to and from desktop systems automatically.

Finally, he has committed Microsoft to work on designing Windows into consumer electronic machines such as video cassette recorders, audio systems, home telephones and information browsing systems run over cable television networks, as well as advanced computer games, Windows-based photography systems and multi-media education software.

Gates says many of these projects will require partnerships with companies in different industries, but Microsoft has enough funds for

such strategic investments. He cites the company's investment last year in London publishing house Dorling Kindersley and the subsequent development of multi-media products around the company's educational books.

"Partnership is key - getting people to build these devices in an intelligent form so that other people's machines can talk to their machines," says Gates. "We don't want to dictate partners or form factors - we are working with dozens of manufacturers to bring out systems that contain specialised (software) code."

Gates sees a future where more and more consumer electronics technology is built around the PC - and that which is not will at least use a form of Windows as an underlying

control technology. He predicts that in the future many people will have a few wall-mounted colour, flat screens in their house for TV, video games and information management, with the controls all condensed onto a single hand-held unit.

In the short term, Gates does not want to let video game manufacturers maintain "control of the television" as an interactive entertainment medium and is investigating the role Microsoft can play here. "It's a question of who controls intelligence to TV - which at the moment is Nintendo and Sega," he says. "But what about resolution (sharpness of the TV), what about desire to sit far away from the device and regulatory issues. These are the kinds of things Microsoft explores very carefully and we expect to make some bets here - on telephone control, information browsing and the idea of the PC as an advanced entertainment machine. This will take some time to shape up and see exactly what will emerge - but we will be working with lots of partners on this."



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A tender offer enabling shareholders to tender all or part of their shareholdings at a price of 88.5p per Ordinary Share and 100p per Convertible Preference Share through the London Stock Exchange will open today, 8th June, 1993 and close at 4.30 p.m. on Friday, 19th June, 1993. The terms of the tender offer and the details of the tender offer are set out in the tender offer document which is available to all shareholders.

**TERMS AND CONDITIONS OF THE TENDER OFFER**

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(1) Holders of Ordinary Shares are invited to tender through the London Stock Exchange all or some of their Ordinary Shares at the tender price of 88.5p per share. If more than 14.9 per cent. of the Ordinary Shares are tendered, the tender offer will be accepted on a pro rata basis. Fractions of shares will be rounded down to the nearest whole number. The tender offer will be accepted on a pro rata basis. Fractions of shares will be rounded down to the nearest whole number. The tender offer will be accepted on a pro rata basis. Fractions of shares will be rounded down to the nearest whole number.

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Only holders of shares on the relevant register of members as at the close of business on Friday, 19th June, 1993 will be able to tender their shares through a Member Firm. Both the Ordinary Shares and the Convertible Preference Shares will be tendered on-market. Tenders may only be lodged on behalf of shareholders by a Member Firm of the London Stock Exchange and will be immediately acknowledged by the London Stock Exchange.

The tender offer will open on Tuesday, 8th June, 1993, and will close at 4.30 p.m. on Friday, 19th June, 1993. The tender offer will be accepted on a pro rata basis. Fractions of shares will be rounded down to the nearest whole number. The tender offer will be accepted on a pro rata basis. Fractions of shares will be rounded down to the nearest whole number.

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**FINANCIAL TIMES MAGAZINE**

# Haggling a discount on criminal justice

John Mason on calls for formal plea-bargaining in England

The introduction of a formal system of plea bargaining into the English criminal justice system - a move that would have far-reaching consequences for the courts' handling of all crime from burglary to fraud - now appears a distinct possibility.

Plea bargaining, where defendants agree to plead guilty in exchange for a lesser sentence, is known to be under active consideration by the Royal Commission on Criminal Justice due to report in July. The growing consensus among lawyers is that the commission is likely to favour it if sufficient safeguards can be built in.

The move, which is supported by the bulk of the legal establishment, is driven by largely pragmatic considerations. The post-war rise in crime has left the English legal system dangerously overstretched when dealing with all forms of crime. Plea bargaining is seen as a means of radically reducing the number of cases going to trial.

The legislation of the 1980s aimed at financial crime has created a separate problem - lengthy and costly fraud trials. The problems encountered in fraud trials, such as Blue Arrow, has left confidence in such proceedings dented.

There are a number of suggestions, such as earlier disclosure of the defence case, on how to bring these trials under control. But the complex nature of the offences means there is only limited room for improvement. The problems of making these trials shorter and more manageable are likely to remain almost intractable. Plea bargaining is seen by many as the most effective solution.

To some degree, the introduction of formalised plea bargaining would amount to an extension and formalisation of what already takes place. Although officially discouraged, prosecutors and defence lawyers often confer informally with the frequent result that some charges are dropped if a defendant pleads guilty to a lesser charge.

But what is not possible is negotiation about sentence. It was once possible to obtain a reasonable indication from the judge before trial what length of sentence he had in mind. The scope for this, however, has been reduced in recent years.

Under the plea bargaining system favoured by most judges and barristers, judges would indicate the length of sentence before trial by reference to a system of guaranteed "discounts" for an early plea.

A point of contention would be whether or not to adopt the American practice of giving the prosecution the power to decide sentence discounts - a power seen by many lawyers as likely to result in unfair pressure on defendants to plead.

With fraud and other financial crime, plea bargaining is also in line with current thinking about the enforcement of financial regulation. With a loss of confidence in the UK's current self-regulatory regime expressed by several leading City figures over the past three years, many have looked to the model provided by the American Securities and Exchange Commission as the way forward.

This is the approach favoured by the Serious Fraud Office whose director, Mr George Staple, has advocated plea bargaining to the Royal Commission as the most effective way of cutting the time and expense of fraud trials.



Mr Staple's thinking, based on the American experience, goes further. In line with the reassessment of which financial misdemeanours are dealt with by the courts and which by regulatory authorities, he sees the SFO and other criminal prosecutors collaborating further with regulators. Plea bargaining could then be part of a system which includes substantial fines, restitution to the victims of financial crime and other regulatory penalties such as disqualification.

The intention is clear. Mr Staple emphasises that the public interest demands that, because of the seriousness of some offences, such cases be dealt with by the courts.

But the prosecuting authorities will be looking for a guilty plea at a very early stage, perhaps even before charges are brought.

The scenario envisaged is one where, after the SFO first acts, defendants co-operate from the outset knowing that plea bargaining will be available. Deals will be done along the lines of those done in the USA in the case of Mr Ivan Boesky.

How this would work in practice is uncertain. With more "routine" crimes, such as burglary, the issues are more straightforward and most lawyers expect the introduction of plea bargaining would produce fairly instant results.

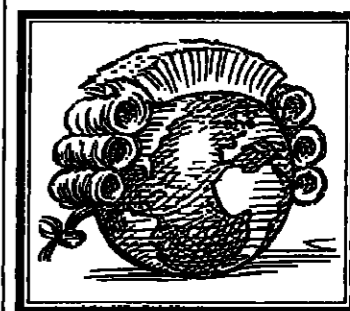
With white collar crime, the out-

come of its introduction is less predictable. One lawyer speculated how the Guinness scandal might have been dealt with had there been formal plea-bargaining. How would Mr Gerald Rouson, who received a one year jail sentence and a £5m fine for his role, have responded if given the chance to negotiate at an earlier stage?

Guilty pleas from Mr Rouson and others convicted over Guinness would have avoided the long court proceedings that took place over some six years. On the other hand, how much room for manoeuvre would the judge and prosecutor have in such a case before the final deal was seen publicly as resulting in too lenient a punishment?

The public appetite for such a pragmatic approach to the delivery of justice would have to be addressed. Safeguards to prevent the innocent being pressured into pleading guilty is the other main concern.

## LEGAL BRIEFS



### Italy issues bank guidelines on laundering

Detailed guidelines have been issued by the Bank of Italy to banks on the operation of a 1991 law aimed at preventing money from being used to launder money from serious crimes. The law puts banks under an obligation to report "suspicious" transactions carried out by their clients. According to Italian law firm, Carnelutti, the guidelines provide a list of unusual transactions which should put banks on the alert.

The list includes: transactions disproportionate in value to the financial standing of the client or to the nature of the transaction itself; transactions in cash for substantial amounts; frequent transfers of substantial amounts to or from abroad; frequent transactions on behalf of third parties who never appear; and refusal by clients to provide information when requested.

### Retrial in \$1bn treasure case

The three-year battle in the US courts over the treasure of the SS Central America, which sank in 1857 180 miles off the South Carolina coast with \$2m in Californian gold on board, is about to reach its climax following a refusal by the US Supreme Court to hear an appeal by the explorers, Columbus-America Discovery Group, who found the ship in 1987.

At the end of June, the US District Court in Norfolk, Virginia, will retry the case to determine the salvage award due to the explorers. Opposing them are 39 insurance companies awarded ownership of the wreck on the basis that they paid for the original loss - despite not producing policies or evidence of claims of payment and not searching for the ship for 135 years. The treasure is now worth about \$1bn.

## German advertising ban overruled by court



The European Court of Justice has ruled that a price advertising restriction in the German unfair competition law infringes Rome Treaty rules on free movement of goods.

The ruling confirms that the treaty may outlaw national marketing rules which are capable of hindering the sale of goods imported from other European Community countries. It makes no difference that the offending rule applies equally to domestic products.

The ruling followed a reference from the Bundesgerichtshof in unfair competition proceedings brought against Yves Rocher GmbH. The German unfair competition law prohibits comparative price advertising which is eye-catching in the sense that it draws attention to a new price of a product by juxtaposing it with the old price. Yves Rocher had used this form of advertising to promote the reduced prices of its products made in France and sold largely by mail order through its subsidiary in Germany.

Confirming earlier case law, the court said national legislation restricting or banning particular methods of advertising or promoting goods was capable of restricting the volume of imports since it affected the choice of marketing methods available to imported products.

The fact that a business was forced to adopt a method of advertising and sales promotion in the member state concerned, and to abandon a method which it considered effective and which it used in other states, was capable of restricting imports.

This means the national law will be precluded by European Community law unless it is justified as necessary to satisfy a legitimate public interest such as consumer protection or the prevention of unfair competition.

The German government claimed the price advertising ban was introduced to protect the consumer since price comparisons frequently lead to mistakes by consumers. The consumer can easily be misled because he is not in a position to check the new price against the old. Advertising with price comparisons is also likely to suggest a price level which is more advantageous than necessarily justified.

The court added that the national law must also be proportionate to the objective pursued. The court said the German law was not limited to price comparisons which were wrong but covered those which were right as well if they were eye-catching. It concluded that price comparisons were prohibited not because they were wrong but because they were eye-catching. It followed that all eye-catching price advertising was prohibited whether true or false. Accordingly, the ban went beyond what was necessary to protect consumers from misleading advertising.

The ban went too far because it applied to price comparisons which were not misleading and which were true and therefore useful in helping consumers exercise choice. An examination of other national laws showed the consumer could be informed and protected by means less restrictive of intra-Community trade.

The German government also argued that the ban did not infringe Rome Treaty rules because it had an insignificant effect on the free movement of goods. The court said except where the effect on trade was hypothetical, the intensity of the effects on intra-Community trade was irrelevant.

C-128/91: Yves Rocher GmbH, ECJ, 18 May 1993.

French restrictions on contact lens distribution upheld

The court has ruled that French legal requirements that optical equipment can only be sold by qualified persons are precluded by the Rome Treaty. However, it said requirements that lenses should only be sold in business premises run by qualified opticians were justified under the treaty's exception for import restrictions resulting from national marketing laws intended to protect public health.

In the absence of EC rules on public health, Community countries can make their own rules provided they are in accord with the treaty and are proportionate to the objective of protecting public health.

C-271/92: Société Laboratoire de Prothèses Oculaires v Union Nationale des Syndicats d'Opticiens de France, ECJ, 25 May 1993.

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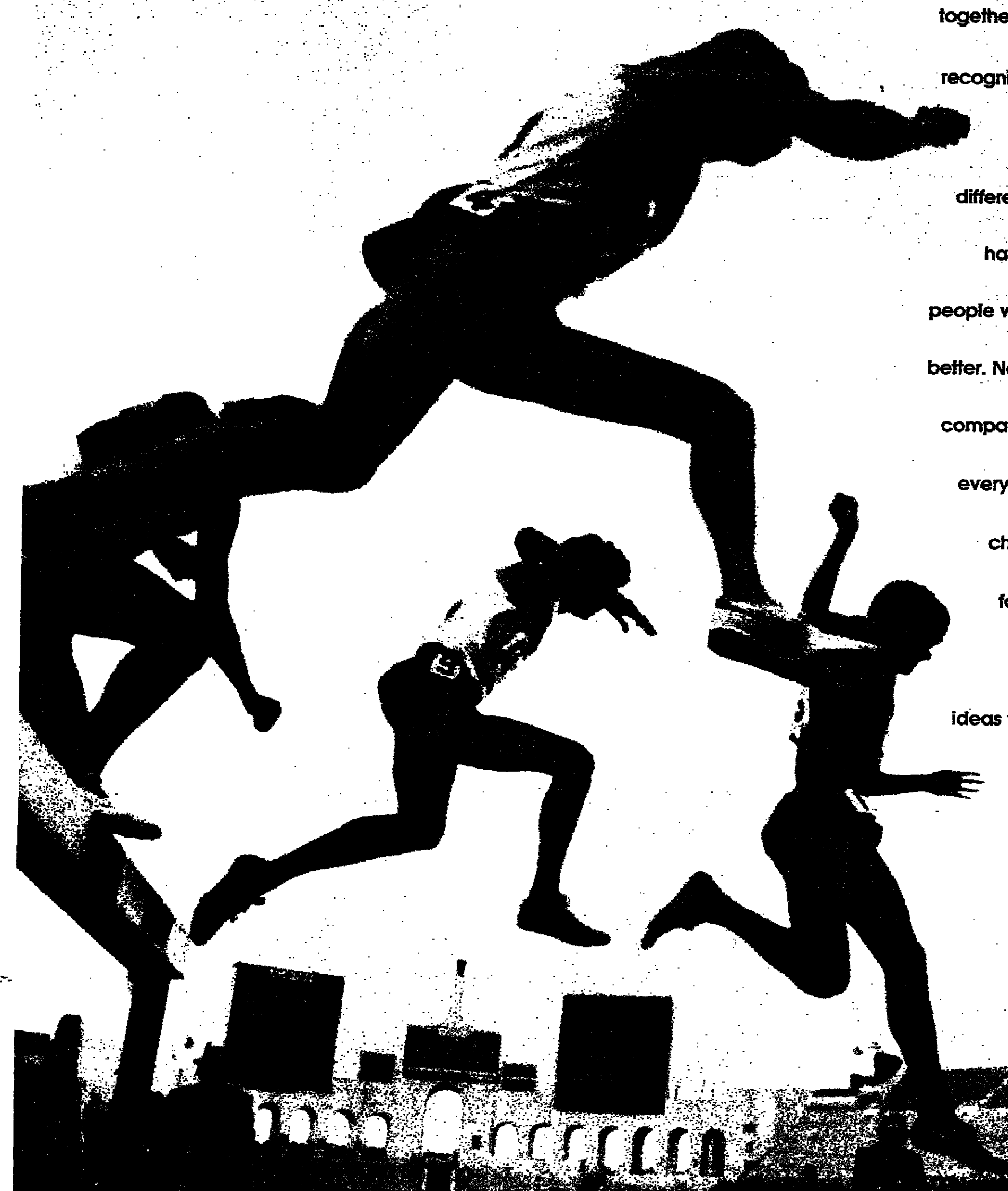
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**M**r Derek Wanless looks remarkably fresh-faced for a man in charge of a bank, given the unpopularity of the industry. A little over a year after becoming the youngest chief executive of a high street bank, he appears to have weathered the stream of criticism of UK banking with undiminished good cheer and optimism.

Mr Wanless, 46, has been an employee of National Westminster Bank since graduating from Cambridge. He might be expected to display more irritation over attacks on banks for offences as diverse as mixing up credit card charges, increasing fees to customers, and limiting loans to small businesses.

But Mr Wanless has his reasons to remain chirpy, as he made clear yesterday in an interview on the changes he has brought about at Britain's second-biggest bank. While NatWest has had its share of criticism from customers - and even staff - it has recently avoided much of the opprobrium over management quality directed by shareholders at its old rival, Barclays.

While Barclays has failed to convince shareholders that it has made a clean break with the lending mistakes of the 1980s, NatWest has acted more convincingly, by installing a largely new and young management team under Mr Wanless.

Mr Wanless has thus been able to conduct management reforms in an atmosphere of relative calm. He emerged as chief executive after Mr Tom Frost stepped aside in March last year to concentrate on his defence to unfounded accusations of deception during a government inquiry into NatWest's part in a rights issue from the Blue Arrow employment group.

Mr Wanless demurs at the suggestion that the Blue Arrow affair was a blessing in disguise in allowing NatWest to reshuffle senior management. "I'm the wrong person to ask," he says, in what remains a distinct north-eastern accent. "But I find it very hard to think that what we went through for all those years was worth it."

Some of the new generation have come from outside. Mr Richard Goeltz, the chief financial officer and an American, joined last year from Seagram, the US drinks group. Mr Stuart Chandler, in charge of strategic development, came from the Bank of England.

Mr Wanless has won respect in the industry, both because

## Losing lots of layers

John Gapper on the reshaping of NatWest's bureaucracy



Derek Wanless: reasons to remain chirpy

of his intellectual pedigree - he has a first-class degree in mathematics - and because he appears to understand most parts of what is a complex business.

High street banks are not easy institutions to change quickly. "When I first came I had not seen so many layers of bureaucracy since I read Milton's Paradise Lost," says one senior manager. "There were archangels and angels, and seraphim and cherubim everywhere I looked."

The bank's entrenched conservatism is one reason why Mr Wanless argues that it would be counter-productive to impose changes too rapidly for staff to understand and assimilate. "Most of the things we are trying are intended to improve service, but there is a danger that in putting those things into practice, you have exactly the opposite effect," he says.

This caution means that, although NatWest under Mr Wanless has displayed willingness to cut its vast array of businesses - shedding retail banking in France, Japanese

domestic equity operations and US credit card merchandising in the US - some doubt remains about whether the bank is willing to take the most painful decisions, such as disposing of larger operations, if they prove necessary.

Technological innovations in retail banking, including telephone banking, raise questions about whether banks such as NatWest will be able to reduce costs quickly enough to avoid being undercut by new forms of competition. Even the 7,000 job losses last year, and the 4,000 expected this year might not be radical enough.

Mr Wanless rejects the suggestion that NatWest is too cautious to change at the speed required. "There is no limit to the size of decision we would be prepared to make were it right for the bank," he says. As evidence, he points to the recent flow of divestments in markets where it does not have "a substantial enough starting point from which to develop".

The most important change has been to reduce the size of the management group to

which the bank's four main businesses report. These operations - UK branch banking, international business, US branch banking, and the NatWest Markets investment bank - are monitored by a head office staff that has been cut from 400 to 150, excluding staff in obligatory roles such as auditing.

This group is split into three functions: Mr Chandler's human resources and strategic development; Mr Goeltz's performance management; and a group risk function under Mr John Melbourn. The idea is to enable the bank to have a clearer view of what businesses it should be involved and how these should be operated.

Mr Goeltz has been working on new performance measures to avoid a repetition of past mistakes. Part of this involves developing what Mr Wanless calls "measures of long-term health" of NatWest's various operations. These measures include asset quality, unit costs, customer satisfaction and staff motivation.

While some of these are "soft" measures, others such as asset quality will be reflected directly in the profit and loss account in future years. Mr Wanless says unit costs are particularly important because they indicate the strength of the bank's defences against competitors which use technology to undercut its higher-cost operations on price.

Yet he also thinks these measures will prevent the bank from adopting a short-term view, for example by cutting costs in ways that damage service and demoralise staff. The question is whether such a broad view of performance will deliver the sustained increase in returns on capital which all banks are now seeking.

The alternative might be a gradual break-up of operations within the old unwieldy bank which Mr Wanless wants to slim down rather than divide. NatWest's chief executive thinks his bank can achieve results in line with companies in other sectors - given the reforms and greater economic stability.

Lloyds Bank recently the most successful clearing bank, has made its mark by emphasising shareholder value. But Mr Wanless says NatWest needs to please staff and customers too.

"It is too easy to say that in the long run all these things go together, but there is a considerable element of truth to it, especially in a service industry," he says.

## The Tories can rely on Labour



Mr John Smith has a choice. He can let a taxi-cabful of trade union bosses run the Labour party, or he can try to run it himself.

It is not much of a choice. If he caves in to Mr John Edmonds, the general secretary of the GMB union, he might as well give up politics and retire to compose a guide to hill-climbing in the Highlands. If he fights for his party's independence he may lose anyway. The short-term winner can only be Mr Paddy Ashdown, the leader of the Liberal Democrats. The long-term beneficiary is likely to be the Conservative leader, whoever he or she may be at the time.

Yes, the plot does have a familiar ring to it. The GMB voted yesterday to oppose the exclusion of trade unions from the selection of Labour's parliamentary candidates. Several unions also plan to retain their 40 per cent share of the vote for the party's leader and deputy leader. Mr Smith wants participation in the Labour party's procedures to be limited to members of the party. Mr Edmonds will have none of that. He refers to what he calls "two groups of Labour members - the 200,000 individuals who pay by direct subscription, and the 4m who pay a 'political levy' through their trade unions. 'We believe that everyone who contributes should have the right to participate,' he said.

It sounds as reasonable as it is wrong-headed. So does the compromise offered to Mr Smith by the National Union of Public Employees' conference yesterday. Under this deceptive formula, Nupe's political levy-payers could declare themselves supporters of Labour and no other party, thus becoming "registered" mem-

bers. Like Mr Edmonds' rationalisations, this is a sham. Votes delivered by union machines to the party headquarters are not true democratic votes. They never can be. Somewhere along the line apparatchiks control them. The unions' inability or unwillingness to perceive this will be the death of the party they founded and still finance. "Apparently some Labour politicians think we are an electoral liability," Mr Edmonds said yesterday. He can say that again. Labour will not win another election if people think that they are electing puppets. The inoffensively reasonable Mr Edmonds is demonstrating that he aspires to be a puppet master, first, last and always.

If Mr Smith persists, Mr Edmonds will be able to demonstrate his power. He can deploy a negative "block vote" of some 650,000 GMB members at Labour's conference in October. His fellow-bosses from the Transport and General Workers' Union, Nupe, the MSF union and others can throw in veto cards with a combined value of 2m-plus. End of story. A few general secretaries can thus publicly and unashamedly block reform in a manner that would turn the Russian parliament's speaker, Mr Ruslan Khasbulatov, puce with envy.

This is not the end of Mr Smith's troubles. As he is discovering, the Labour movement can always be moved upon - by the Tories. Whenever the trade unions' party is doing well, a bogey-man comes along to act as a vote-repeller. Once it was Mr Tony Benn; another time it was Mr Ken

Livingstone; for a while it was Mr Arthur Scargill. The latest aspirant for this historic post, which is surely nurtured by Conservative Central office, is Mr John Prescott, Labour's spokesman on transport. He was trounced when he put himself forward as a candidate for deputy leader, but he has learned nothing. Now he has emerged as the dummy on Mr Edmonds' knees, his wooden crescendos reverberating in public as he insults the team of "modernisers" around Mr Smith.

This little drama must be of some comfort to Mr John Major. The prime minister is in a spot of bother himself, but he can console himself with the thought that it is better to have governed and lost than never to have governed at all.

Whether he stays or goes, he will have won a general election and made his mark. The Labour leader has no such consolation to rely on. If, as seems possible, Mr Smith is brought down by Mr Edmonds, he will never have experienced the delights of sitting in No 10 Downing Street and enduring the vilification of the media and the electorate.

Only Mr Ashdown can smile at what is happening. He has much to gain, and nothing to lose. The leader of the Liberal Democrats may indulge himself in fantasies about becoming prime minister, but he is not likely to perish of disappointment if he fails to achieve what most people believe to be impossible. After all, under-secretary of state for Wales in a Labour-led coalition is still further than he can realistically hope to get.

Yet today he is enjoying a

fine run, which may become prolonged. Only four years ago he stood amid the ruins of the former Liberal and Social Democratic alliance, a symbol, some said, of the end of third party politics in Britain. Now the Liberal Democrats can fairly claim the support of perhaps a quarter of the voters. Mr Ashdown commands an advancing army of local authority councillors. He can look forward to further triumphs in the south west of England. His party's recent victory at Newbury cost Mr Norman Lamont the chancellorship; its possible forthcoming win at Christchurch could cost Mr Major his premiership.

It will be seen at once that these excursions into the land of power are likely to be short-lived. The Liberal Democrats are prospering because the government is regarded as incompetent and Labour remains unmodernised. To be fair, Mr Ashdown has added to his party's strength by taking unequivocal positions on matters such as the Maastricht treaty and intervention in Bosnia. Voters can see through the careful equivocations of the prime minister and the leader of the opposition; some are attracted by the Liberal Democrat's clear-cut stands on principle. But that said, Mr Ashdown has not managed to sell any overriding general principle that, in the electorate's eyes, would both distinguish his party and dispel the killer belief that it can never win.

Well then, can Labour? A slam-bang open battle for control with the union leaders, with Mr Smith laying his job on the line and yet winning, could solidify the Labour vote. I'll believe that when I see it. A Lib-Lab pact? We are more likely to see the two non-conservative parties cancel one another out, as the government climbs upwards from its post-recession trough.

Joe Rogaly

Labour will not be elected if people think they are electing puppets. Mr Edmonds shows he aspires to be a puppet master

## LETTERS TO THE EDITOR

Number One Southwark Bridge, London SE1 9HL

Fax 071 873 5938. Letters transmitted should be clearly typed and not hand written. Please set fax for finest resolution

### Welfare cuts versus an increase in taxes

From Mr Harry Shutt.

Your leader of June 1 ("Mr Major's next steps") calls for public debate on where cuts in the welfare state should fall. Yet surely intellectual consistency also demands some discussion as to whether such cuts are preferable to tax increases?

To deny this is to cling to the oft-disproved supply-side myth, revived with such enthusiasm in the 1980s, that tax cutting and deregulation tend to promote sustained economic prosperity. Now that has been exploded yet again, honesty requires us to recognise that, since cutting taxes (or more accurately shifting the burden from the rich to the poor) has not generated the promised economic miracle, there is no justification for not reversing the process.

The obscenity of expecting the less well-off to pay the price of Thatcherite folly - and thus prospectively join the ranks of the 6m or so already on income support - is regularly illustrated in your own columns. Witness the spectacle (highlighted by Lex, "In at the deep end", May 27) of the privatised water industry - having been allowed to levy its own tax on captive consumers and being largely absolved of paying taxes itself for years - pouring its super-profits into overseas investments that are both highly speculative and quite irrelevant to the well-being of our domestic economy.

Is it not an insult to the moral sense as well as the intelligence of the public to suggest that a nation which can afford such waste cannot also afford the welfare state?

Harry Shutt, 19 Tennington Close, Horsham, W Sussex RH12 4PM

### Shareholders not much in evidence

From Mr John Reeve.

Sir, As chairman of a modest public company, County of Kent Developments, I have just presided over my third annual general meeting. As on the two previous occasions, in spite of there being some 300 on the register and their being properly notified, not one shareholder (save the directors) attended the meeting.

This may indicate absolute confidence in the board of directors or the total despair on the part of the shareholders.

However, the question I pose runs as follows: is there consecutive signs of a public company without a shareholder in attendance (save the directors) a record or are there others among your readers better qualified for inclusion in the Guinness Book of Records?

John Reeve, J F Reeve, Copse Close, Cedar Road, Hook Heath, Woking, Surrey GU24 6JL

### Why Lamont's removal from office was just

From J R L Cunningham.

Sir, In his article, "Hounded out by fiction and foes" (June 4), Bill Robinson asked: "Why did we keep on reading that the City had lost all confidence in the chancellor?" and then basically fails to provide an answer except by reference to Mr Lamont's numerous indiscretions in his private life.

The real reason why the financial community "gave up" on Mr Lamont, and is close to doing the same on the prime minister, is that both men, having pursued an economic policy which was clearly not in the country's best interests, were only forced to change tack following the UK's brutal election from the exchange rate mechanism.

Like the Bourbons they seemed incapable of learning from their mistakes and, if Mr Lamont's removal from office was the result of pressure from the media, then the reporters concerned have done the country a considerable service.

J R L Cunningham, chairman, Investment Research of Cambridge, 28 Pantown Street, Cambridge

From Mr Peter Marks.

Sir, In his defence of Mr Norman Lamont, Bill Robinson writes that "his senior colleagues agreed that the ERM debacle was not his fault", and that other countries "have not found it necessary to change their financial ministers along with their ERM party".

The difference from other countries is that, shortly before the exchange rate was floated, quite a few billions of Britain's foreign exchange resources were spent on buying sterling at a rate some 10 to 15 per cent higher than that which has ruled in the market ever since. Responsibility for exchange rate policy, including intervention, rests with the Treasury and the Bank of England, chiefly the former. It was for being the person responsible, at least formally, for incurring such huge losses that Mr Lamont had to go. If in some way it was not actually "his fault", whose was it? In a democracy we should be allowed to know.

Peter Marks, 23 First Avenue, Westcliff-on-Sea, Essex SS0 8HS

### Not so good with VAT numbers

From Dr Gordon Wilkinson.

Sir, Charles Batchelor ("Negotiating the barriers", June 1) rightly refers to the difficulties and burdensome administration of new rules on value-added tax, especially the completion of statistical trading reports. One might be impressed by the apparent sophistication of Customs & Excise computer systems to process such volumes of trade data.

However, we find it astonishing that VAT offices are able to confirm whether a VAT number applies to a particular European company, but given the names, are unable to advise the correct VAT number for the occasional firms that our time-consuming and expensive mail, fax and phone communications have been unsuccessful in obtaining. Gordon Wilkinson, Infocum, PO Box 78, East Grinstead, England RH19 2YW

### Standards on the decline

From M Wolstencroft.

Sir, I was horrified to note that the European Commission is likely to legislate against the British system of hallmarks in order to harmonise downwards to a lesser standard ("EC looks set to ban precious metal symbols", June 3) and hope that this will be resisted at all costs. What is next to go in the new State of Europe, perhaps the three-pin plug? After all, it, too, constitutes a higher and safer standard than that used in continental Europe. M Wolstencroft, 1-B rue du Moulin, L-1423 Dondelange, Luxembourg

### Progress continues on plans for a nuclear waste repository

From Mr Michael Folger.

Sir, Bronwen Maddox ("Storing up long-term doubts", June 4) suggests that this company's plans for a nuclear waste repository are "stalled". In fact we are making steady progress.

In April, Cumbria County Council granted planning permission for an extensive array of monitoring and geotechnical boreholes at our Longlands Farm site near Sellafield. Once we have initial results from that drilling, early next year, we will be able to finalise a planning application for our proposed rock characterisation facility, or "rock laboratory".

The Radioactive Waste Management Advisory Committee, in its latest annual report, reiterated its welcome for our plans for that underground facility. As we stated last autumn, work in the rock laboratory will be essential to develop the "unequivocal evidence" on hydrogeological conditions to which the committee's report has referred and which we and the safety regulators will need before waste disposal could begin.

Neither are repository costs "unknown". The NAO itself has reported current best estimates of undiscounted lifetime costs in the region of £3bn.

Tighter estimating will follow as improving knowledge of the site allows us to undertake more detailed engineering studies - keeping within known technology and aiming at minimum cost. While the cost of underground disposal is high in absolute terms it is small in relation to the quantity of nuclear electricity generated. Thus, a £3bn cost would be equivalent, even in the crudest undiscounted terms, to only about a tenth of a penny per kWh of nuclear power generated since the 1950s and up to 2030.

Inevitably, there are uncertainties over precise timing of

our programme - as our published plans acknowledge. These reflect the scientific realities of the step-by-step approach necessary for a confident and cost-effective evaluation of site suitability and also the constraints of the planning system. But, with a flexible strategy and the necessary resources committed on the ground, we are maintaining momentum to make early deep disposal a reality, as government policy requires.

Michael Folger, managing director, United Kingdom Wires, Curie Avenue, Harwell, Didcot, Oxfordshire OX11 0RH

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